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BALTIMORE, NOVEMBER 22, 1895.

Maryland at the Exposition.

Baltimore, not to be outdone by Chicago and New York, is preparing to celebrate Maryland Day, December 26, at the Atlanta Exposition on a very extensive scale. It is proposed to send the Fourth and Fifth regiments, about 750 strong, and a large delegation of leading business men headed by Governor Brown and his staff.

The MANUFACTURERS' RECORD believes that Baltimore, so intimately connected with the South, will measure up to the occasion, and honor Atlanta with a delegation worthy of the credit due that city for its marvelous work in behalf of the South.

Mr. JOHN R. BARTLETT, president of the Nicaraguan Canal Co., and Hon. Smith M. Weed, of the same company, sailed from New York for Europe on Wednesday in response to cables from parties in London in regard to pending financial negotiations. It will be remembered that Mr. C. P. Treat, a Chicago contractor, who built the railroad for the canal company, wrote the MANUFACTURERS' RECORD last winter that after thorough personal investigation of the route of the Nicaraguan Canal he would be willing to contract to build it for the amount estimated as its cost by the canal company's engineers. Mr. Treat was then in London, and the supposition was that he was having some negotiations with English capitalists looking to securing the money for building the canal. About ten days ago Mr. Treat left Chicago for London, and it is rumored that his visit is about canal matters. This, in connection with the sailing of Mr. Bartlett and Mr. Weed, seems to indicate that there is some deal on hand which may lead, as has been predicted several times, to the building of the canal without regard to government aid. The MANUFACTURERS' RECORD wants the canal, but it believes that the United States government ought to control it in some way.

Some Errors About the South.

A recent writer has said, "History, poetry, romance, art, public opinion, have been most unjust to the South." It is not surprising that this is true when its own writers and public men have so generally been unacquainted with the South and have accepted as truth so many false statements put forth by others. The Memphis Commercial-Appeal in a recent issue, commenting upon a letter in the Boston Herald by the editor of the MANUFACTURERS' RECORD, says:

Mr. Richard H. Edmonds, of the Baltimore MANUFACTURERS' RECORD, makes a valuable contribution to the industrial history of the South in a communication to the Boston Herald. The Herald made the very common mistake of attributing the industrial development of the South as an impulse born of post-war conditions, and due to Southerners born since the war or too young to know anything about it. The latter statement, within the knowledge of all Southern men and all who know the captains of industry in the South, is glaringly untrue. The men who have taken the leadership in promoting industrial enterprise in the South are mostly of the older generation, and many of them were conspicuous in the Southern armies. But on the question of the South's industrial condition before the war, Mr. Edmonds's facts and figures will doubtless be surprising to many fairly informed Southerners. He shows in the first place that cotton-growing did not to the extent generally supposed exclude other forms of agricultural industry, and the following comparative table strongly supports his view. * * * Of this, however, it must in fairness be said that while the diversification thus shown was true of the South as a whole, it was not true of the "cotton States" of the South. Wheat and corn were grown in Kentucky and Tennessee, tobacco in Virginia and North Carolina, sugar in parts of Louisiana, etc., but in the States especially adapted to cotton-growing cotton absorbed most of the industrial energy of the people.

The Commercial-Appeal, without stopping to investigate, simply makes the broad statement that the agricultural and industrial diversification claimed for the South, while true of that section as a whole, was not true of the cotton States. It generously concedes that "wheat and corn were grown in Kentucky and Tennessee, tobacco in Virginia and North Carolina, sugar in parts of Louisiana, but in the cotton States cotton growing absorbed the energy of the people." Had the Commercial-Appeal taken the trouble to make some investigations it would have been saved the folly of publishing such misstatements. There can be no wonder that "history, poetry, romance, art, public opinion, have been most unjust to the South" when its own people are constantly, in many forms, putting forth statements as erroneous as those of the Commercial-Appeal. The census reports of 1840, 1850 and 1860 show that the diversification of Southern industry, and Southern agriculture especially, was commanding as much attention in what are known as the cotton States as in Kentucky, Tennessee and Virginia, to which the Commercial-Appeal generously attributes some progress in that line. The Commercial-Appeal takes the ground that wheat and corn were grown in Kentucky and Tennessee prior

to 1860, but not to any extent in the other Southern States. The following comparison will show the error of this idea:

States.	Yield of corn—bushels.	
	1893.	1860.
North Carolina.....	29,951,313	30,078,561
South Carolina.....	12,501,035	15,065,606
Georgia.....	33,078,277	30,775,291
Florida.....	4,909,364	2,824,538
Alabama.....	28,328,514	32,761,194
Mississippi.....	25,817,179	29,563,715
Louisiana.....	15,216,266	16,205,856
Total.....	150,404,928	157,275,785

Taking these central cotton-producing States, which the Commercial-Appeal thinks did not raise much corn in 1860, and it is found that their production of corn in that year was greater by 7,000,000 bushels than thirty-three years later, or in 1893. Texas and Arkansas, large corn-producing States, have been mainly settled up since 1860, and hence their agricultural productions cannot, of course, be compared with yields of 1860. But an investigation will show that their corn crop in that year was very much larger in proportion to their general crops and to population than it is today. As far back as 1850 these central cotton States raised almost as much corn as they have been producing up to this year. Fortunately the South has this year taken a great step forward in corn. What these figures show in the way of corn production but illustrate the general diversification of Southern agriculture at that period. Those who, like the Commercial-Appeal, have overlooked these facts are constantly doing the South a great injustice. They minimize the accomplishments of ante-bellum days, and no greater advertisement of the South and its possibilities can be given than to demonstrate what that section accomplished prior to the war. If it be asked why the central cotton States were raising more corn and diversified agricultural products in 1860 than they are now, it may be answered that at that time the full power of labor was secured, whereas today, owing to the tenantry system and to the fact that the negro as an independent farmer has not yet proved a success (and it could hardly be expected that this generation would be successful in that line), less than half the potential of farm labor is realized now. Moreover, the increase in cotton production of recent years has been largely at the expense of diversified agriculture. As this is now being gradually changed, and the whole population of the South is becoming more fully employed, and as immigration is tending this way very rapidly, the South will soon begin to resume its position of 1860 as one of the largest corn and hog producing sections of the country.

In the meantime, if the newspapers of the South, like the Commercial-Appeal,

shall constantly continue to put forth such misstatements about this section, it cannot be wondered at if the world at large shall continue to misjudge the South of ante-bellum days, as well as the South of the present.

Malice or Stupidity, Which?

The growth and development of the South is most noticeable in Georgia, Alabama, Mississippi, Louisiana and Texas. Some parts of Tennessee and Kentucky are doing well, as is also Virginia, but South Carolina is paying dearly for being the birthplace of secession. That State is virtually where it was in 1866, and it is likely to remain there for a generation to come. South Carolina was especially devastated by the war.

So far she has shown little disposition to recover her standing, and as a result all her best young men, full of ambition to make names and seeing no opportunity there, have gone to other fields.—General Schofield, U. S. A., in an interview on the South.

The above is a sad commentary upon the intelligence or the truthfulness of a distinguished army officer. It is needless to say in reply that South Carolina is making most remarkable industrial and agricultural progress, and in cotton manufacturing leads the whole South, having not far from 1,000,000 spindles, while it is building more mills and adding more spindles than any other State in the South. Her best young men are staying right at home, taking an active part in the upbuilding of the State, and instead of showing "little disposition to recover her standing," she is, through the development of manufactures, the increase in mining, the growth of Columbia, Charleston, Spartanburg, Rock Hill, Greenville and many other places, absolutely disproving the unfounded statements of General Schofield. What a commentary on the supposed intelligence of some leading army officers is afforded by these slanders!

PIG-IRON production is now running at the heaviest rate ever known in the history of the country. On the first of November the furnaces in blast had a total weekly capacity of 217,306 tons. Active preparations are being made to put into blast a number of additional furnaces, but even at present the current production as given by the Iron Age is at the enormous rate of 11,250,000 tons per year. The increase from October 1 to November 1, in weekly production, was 16,000 tons. On November 1, 1894, the furnaces in blast had a capacity of 162,666 tons, or nearly 55,000 tons less than the capacity of the furnaces in blast at present. It is an interesting fact in connection with this tremendous iron output to note that stocks on hand are steadily decreasing. On August 1 the stock of pig-iron was 511,781 tons, and from this there was a steady decline every month until on November 1 stocks aggregated 396,669 tons. Before January 1 the weekly output of pig iron will probably be at the rate of not far from 11,750,000 tons a year.

Should Be Investigated.

The series of misfortunes which the battleship "Texas" has experienced since she was launched are of such a peculiar character that the MANUFACTURERS' RECORD believes they should be fully investigated by the proper government officials. This ship is Southern built. Her engines were constructed by the Richmond Locomotive Works, and, as has already been stated in a previous article in this paper, the machinery equipment has been pronounced by the United States bureau of steam engineering to be of the best workmanship and quality throughout. After the vessel was launched it was reported that, through the ignorance or carelessness of her pilot, she was run into shallow water and her condensers fouled with mud. She was taken to Hampton Roads, and while at anchor there various rumors were started, one to the effect that her machinery was defective, and another that her bottom had become foul. Some discussion arose as to the best place to dock her, and instead of placing her in the dry-dock at Newport News, which we understand is large enough and but a few miles from her anchorage at Hampton Roads, she was taken to New York. At that point the water was too low, and after waiting for what was termed the "spring tide" she was placed in dry-dock, and over the apertures allowing water to enter her condensers was found a mat of seaweed and mud, one patch alone being thirty-one inches in length. A representative of the MANUFACTURERS' RECORD saw a piece of this growth at Washington, and can state that it would be almost impossible for water to pass through it. This discovery has verified the claim of the Richmond Locomotive Works and others that the deposits on the bottom of the ship rendered it impossible to thoroughly test her engines or estimate her rate of speed. But this is not the worst of it. Through someone's blunder or willful negligence the ship has met with an accident in the dock which may render expensive repairs necessary.

It seems very remarkable that the "Texas" should experience such a series of mishaps when other vessels which have been built in the North have been completed, docked and then tested without any accident happening to them. By rights, the "Texas" should have been in commission and accepted by the government several months before the "Indiana," which is now ready for service, and had it not been for the willful or accidental negligence of some one we believe that she would have been. No one knows what rate of speed can be developed, for the simple reason that the engines of the "Texas" have not yet had a fair trial. If the injuries which she has received at Brooklyn dry-dock are of such a character as to prevent a speed trial in the near future, the builders of her machinery should have the credit from the Navy Department of the report which has already been made by the bureau of steam engineering—that the quality of machinery gaged by the dock trials was in the highest degree satisfactory.

In order to broaden the scope of the Chicago meeting of the National Association of Manufacturers, the time for holding the annual convention has been postponed to January 21. Mr. Thos,

Dolan, of Philadelphia, the president, and Mr. E. P. Wilson, of Cincinnati, the secretary, of this association, have issued a circular to the manufacturers of the country to this effect.

South in Excellent Condition.

Mr. G. N. Hartman, manager Williamatic Linen Co., of New York, who has recently been in the South, has been interviewed by a Washington Post reporter, and states that he believes the cotton States are showing a stronger indication of revival of prosperity than any other part of the country. He believes all portions of the Southern States are in excellent condition, excepting Florida, and Florida has been retarded principally by the failure of the orange crop.

Chicago Opinion of the South.

A dispatch from Birmingham to the Chicago Inter-Ocean gives an account of the visit of a number of leading Chicago business men to the Alabama iron district after their trip to Atlanta. The correspondent says:

*** These are among the largest furnaces in the world. The extent of this plant and its modern improvements and ponderous machinery impressed the Chicago visitors more forcibly than any other evidence of the South's industrial growth which they had seen.

"It is marvelous," exclaimed ex Congressman George E. Adams, "to what magnitude the manufacturing industries of the South have grown."

"These huge works evidence a development in your iron interests of which I had no conception," said E. G. Keith. ***

Within a few hours the distinguished guests from Chicago had passed through the greatest mineral district of the South, if not of the world. Their limited time prevented their seeing the most favorable coal openings, and they were given no opportunity to inspect the iron deposits, but from the general expression of interest and astonishment it is safe to say that not one of this party dissented from the opinion expressed by such eminent authorities as Sir Lowthian Bell, ex-Mayor Hewitt, of New York, and Colonel McClure, of Philadelphia, who have declared that iron can be made cheaper in the Birmingham district than in any other point in the world, and it seemed to be generally conceded that Sir Lowthian Bell was not wrong when he declared that this district would be the future great steel-producing section of the world. ***

Every one in the party expressed himself as deeply impressed with the idea that the great question before the South and the West today is found in the cry for more homes and more industries for the South and more trade for the Northwest.

In a speech at Buffalo, N. Y., a few days ago, Hon. Chauncey M. Depew, emphasizing the importance of solid and substantial growth in any community to insure permanent prosperity, referred to having recently passed through "a boom town in the South." The MANUFACTURERS' RECORD pointed out to Mr. Depew in a private letter that the statement put out in the way in which he had made the speech seemed to reflect upon the solidity of the South's industrial advancement. In reply Mr. Depew says:

In making the statement in my speech at Buffalo, I certainly had no intention of depreciating the South or its solid and very remarkable development, but boom towns are incidents in the growth not only of the South, but of the West, Northwest and Pacific coast. I know of many such towns in the West and Northwest. The illustration in my speech, however, came to me because I happened within the last ten days to pass through a boom town, and to hear of another while on a brief and hasty visit South. ***

In every section where there is such a phenomenal advance in population, manufacturing and real estate values as has occurred in many parts of the South and in hundreds of places in the West and Northwest, there is sure to be an effort to participate in the same prosperity on the part of capitalists by making experiments in providing for a business and population which do not exist, ready-made towns, villages or cities. Such efforts and failures are the natural attendants of prosperous and frequently of extraordinarily productive conditions.

The Visit to Atlanta.

The visit of the Chicago delegation to Atlanta has been most happy in every respect and gratifying to all concerned. The largest friendly army of invaders, perhaps, ever to enter a Southern city from the far North seems to have taken the South by storm, and to have been itself captivated by the inimitable hospitality and good will of its Southern hosts. The occasion was marked by parades and liberal display of soldiery, public manifestations of rejoicing and mutual assurances of friendship and desire for further social and commercial intercourse.

But behind all this there is a deeper significance. The Atlanta Exposition itself is the announcement to the world of awakening enterprise in the South. The demonstrations and interchange of greetings on Illinois and Chicago days mark the consummation of a mighty change. Sectional lines, already very much obliterated, are soon to disappear entirely, leaving the terms "North" and "South" with only a geographical significance. Heretofore railroads, lines of emigration, means of communication and transportation have run from East to West and vice versa. Slowly this condition has been changing of recent years. Means of communication between North and South, though still hampered, are constantly growing better. With the added stimulus to social and commercial intercourse that must result from the visit of such a large and representative delegation from the North, the means for the interchange of ideas and commodities must respond to the demand for improvement.

Sections and peoples are at enmity oftentimes because of ignorance. A divided North and South were due nearly as much, perhaps, to lack of acquaintance with one another as to the institution of slavery. The assurance that the obligation of sectionalism is to be permanent is based on the fact of greater familiarity and mutual understanding, both socially and commercially, which the visit to the South is doing more than any other one thing to foster.—Chicago Record.

And for this the MANUFACTURERS' RECORD has labored for many years—the South-haters, the North-haters and all cranks to the rear—one people and one country and the best elements of all sections only need personal acquaintanceship to make this a full reality.

THE MANUFACTURERS' RECORD publishes a letter today criticising railroad rates in the South. This letter was written by a business man in Fort Valley, Ga., and if the statements which he makes over his own signature are entirely correct, it is time for some very vigorous action to secure more equitable railroad rates if the South is to be developed. It is folly to attempt to urge the extension of manufacturing interests, and especially the diversification in the way of smaller industries, if by any means the business is to be made unprofitable because of high freights. Of course, the railroads have their side of the case, and while the MANUFACTURERS' RECORD is not disposed to criticize them in advance, it would be very glad to hear from other shippers on this subject, and likewise from any railroad people who may care to discuss the situation.

THE News and Observer, of Raleigh, N. C., is preparing to issue as a Thanksgiving number a special industrial edition devoted to North Carolina. This edition will contain from thirty-six to forty pages, and will be one of the most complete and comprehensive trade editions ever published by any Southern daily.

At the annual meeting of the Athens (Ga.) Commercial Club the following officers were elected for the ensuing term: President, W. A. McDonald; vice-president, W. D. Griffith; secretary, W. M. Crane; treasurer, C. A. Talmadge; directors, W. A. McDonald, J. F. McGowan, W. D. Griffith, M. G. Michael, W. K. Nicholson, J. S. Cowles and H. H. Crawford. The reports of officers showed the club to be in good financial condition with a membership of 127 of the leading citizens of Athens.

The Canal from Baltimore to the Sea.

PHILADELPHIA, November 18.

Editor Manufacturers' Record:

Since the publication of the report of the board of engineers, appointed by the President to select "the most feasible route for the construction of the Chesapeake & Delaware Canal," the enthusiasm seems to have abated, and the subject slumbers.

Can this be because the conditions which demanded the waterway have suddenly changed, or that other channels have been provided with the much coveted facilities? Or, perchance, did the board reach erroneous conclusion in recommending the route of the present canal as being the one best fulfilling all requirements? We think not, but a careful inspection of the argument shows that the local opinions prevailing as to the necessity for the canal were divided upon the issue as to whether it should be designed for foreign or for domestic traffic. The advocates of a ship canal were confronted, very unexpectedly, by the recommendations of a committee from the Board of Trade, and endorsed by that body, that such a canal was not demanded, and would be of "no commercial advantage to our community, but we are of opinion that a deeper and wider canal than the one which now connects the Delaware and Chesapeake bays, say something like fifteen feet in depth, and with locks capable of passing large barges and light-draft steamers, would be of enormous value to the coastwise commerce of this and other cities along the Atlantic seaboard, etc."

Thus the relative economy and utility of the coastwise and foreign commerce is made an important factor in the problem, and the inability of the present waterway, now nearly seventy years old, to meet existing demands is fully recognized.

In considering this question the board secured an official statement of the north and southbound commerce from the collector's office at Baltimore, and its relation to the draft of the vessels employed in conveying it, which is very suggestive, viz:

[Extract from letter dated Baltimore Nov. 26, 1894.]
COASTWISE MOVEMENT FOR 1893 FOR PORT OF BALTIMORE.

	Under 10 feet draft	10 to 15 feet draft	15 feet to 20 feet	Over 20 feet	Total reported at Custom House
To and from Northern cities.....	29,411	45,611	487,751	10,277	562,543
Percentage....	3%	17%	56%	24%	100%

It will be seen that only 3 per cent. is carried in vessels of less than ten feet draft, 20 per cent. up to fifteen feet and 76 per cent. to twenty feet draft.

The letter also states that there are a large number of coasters which are not required to report at the custom-house, and which "carry as much as 2,000,000 tons, about 75 per cent. of which go north, and bear the same relative proportion as to draft."

From this exhibit, therefore, there are 2,368,543 tons at the port of Baltimore alone going north, of which only 3 per cent. can pass through a 10-foot canal.

But the coastwise commerce of the Chesapeake and Delaware bays aggregates 25,500,000 tons, 3 per cent. of which is about equal to the present average business of the canal.

If it were deepened to fifteen feet, as recommended by the eminent committee of the Board of Trade, it should then pass 20 per cent. or 5,100,000 tons, and if deepened to 20 feet it should accommodate 18,125,000 tons, which is beyond the capacity of ordinary canals with locks.

This, however, only represents the commerce in existence several years ago, and makes no allowance for the increase due to the lower rates, which must of necessity follow.

The business in sight, awaiting the re

duction of the present canal to tide level, increasing its dimensions and abolishing the locks, is enormous, and would accrue greatly to the benefit of all the cities on these several waters by giving them cheaper and more abundant raw materials and fuels. The enterprise of Mr. Alexander Brown, in undertaking the enlargement of the Dismal Swamp Canal, is very much to be commended, as it will stimulate business in Baltimore, and it is to be hoped that similar energy and foresight will be displayed by sister seaports in connecting themselves together by a tie of reciprocal commercial relations which no enemy can penetrate or sever.

Since the foreign commerce of a port is seldom more than 25 per cent. of the entire tonnage, it will be readily seen that it is not so important a factor as is generally supposed, and that it is the domestic commerce which should be fostered and encouraged. The manager of one of your largest foreign lines recently said, the canal via Queenstown would be of no use to them.

Let us, therefore, continue the good work of agitation until the facilities demanded by the best interests of an enlightened and enterprising people are secured.

LEWIS M. HAUPT.

BREAKING DOWN THE BARRIERS.

Western People Determined to Secure Southern Trade by Obtaining Lower Railroad Rates.

The claim that Southern railroad companies are preventing the development of trade between the South and West by a tariff so excessive as to be almost prohibitory, is not new to readers of the MANUFACTURERS' RECORD. We have several times referred to the charges made by Southern as well as Western merchants and manufacturers, that the railroads were to blame for the present condition of business between these sections, which, it is acknowledged, is by no means as large as it should be. A case is now pending in court in which it is hoped a decision will be obtained, which will lower freight rates from the South to the West, and vice versa, to a more equitable basis. This litigation is the result of persistent efforts on the part of Western business men to break down what they allege is literally a barrier to more intimate relations between the West and the South. The history of this fight is thus described by the Chicago Times-Herald in an elaborate review of the subject:

"Five years or more ago, the Chicago freight bureau began correspondence with the officers of Southern railroads with a view to getting them to put in rates from Ohio river points which would allow the merchants of Chicago and the Northwest to do business in the South on even terms with the corresponding merchants of the East. The distances of the Southern points from Chicago were invariably less than from New York and Boston, but the bureau asked only that Chicago be put on an equality. In this correspondence it was shown that manufactured articles from Chicago and the Northwest found no sale in the South, the rates being so much higher than those from the farther distant points in the East that all the trade was forced to the Eastern points.

"Refusal after refusal met the requests of the bureau, and finally it was determined to appeal to the interstate commerce commission. This was done in a complaint filed by the bureau before the commission, and in which complaint the Cincinnati freight bureau joined. It was shown in this complaint that the Southern lines charged such excessive rates from the Ohio river to Southern points as to force practically all the trade in manufactured articles to the Eastern markets. Proof of this was given by choosing a number of central points in the South and showing the relative rates

and distances from Chicago and the Eastern cities. It was shown this discrimination against Chicago and the Northwest applied everywhere in the South, and the proof was submitted to the commission. It will be sufficient for the purpose to make the comparison to Atlanta and Birmingham, again reiterating the statement that the same discrimination exists everywhere in the South.

"The complaint of the Chicago freight bureau showed that Atlanta was 1089 miles from Boston, 876 miles from New York and 733 miles from Chicago. The latter city is 143 miles nearer Atlanta than New York and 356 miles nearer than Boston. Under ordinary circumstances rates would be proportionately lower from Chicago to Atlanta. On the contrary, the rates by classes from the three cities to Atlanta were found to be as follows:

From Chicago...	\$1 47	\$1 26	\$1 06	\$0 85	\$0 71	\$0 58
From New York	1 14	98	86	73	60	49
From Boston....	1 14	98	86	73	60	49

"The complaint of the Chicago freight bureau showed that Birmingham is 652 miles from Chicago, 990 miles from New York and 1203 miles from Boston. In this illustration it should be noted that Chicago is one-third nearer Birmingham than is New York, and that Chicago is practically 50 per cent. nearer Birmingham than is Boston. In any other section of the United States Chicago would get the benefit of its geographical position. In the case in point the Chicago freight bureau found the rates were as follows, by classes, to Birmingham:

From Chicago...	\$1 19	\$1 03	\$0 83	\$0 64	\$0 55	\$0 42
From New York	1 14	98	86	73	60	49
From Boston....	1 14	98	86	73	60	49

"It will be noted that in the above and in hundreds of other corresponding cases the 213 miles between Boston and New York are ignored, the rate from each being the same. In each of the hundreds of cases also, Chicago averages just about 213 miles nearer the Southern point than does New York. In spite of this nearer distance, the rates from Chicago are considerably higher. The discriminations will be appreciated much more readily by comparing the mileage and rates with the accompanying map.

"Commissioner Iglehart, of the Chicago freight bureau, made an exhaustive examination of the whole question and filed a voluminous complaint on behalf of the bureau with the interstate commerce commission. Parts of the testimony were the admissions of several Southern officials that the rates were unjust and discriminatory toward Chicago and the Northwest. The only plea set up in justification was that the rates were subject to the Southern railway and steamship pool, and that they had been arranged so as to give the Eastern roads the carriage of high-class and the Western roads the carriage of low-class commodities."

As a result of these arguments, the interstate commerce commission ordered a readjustment of rates on a basis more favorable to Chicago and the West. The Louisville & Nashville Railroad Co., however, took the matter to court, and Judge Taft, of Cincinnati, has the case docketed for trial in his court. His decision will be very important as defining the legal rights of the commission.

As the South has increased in population, business and industrial enterprises, and as outside capital has found its way into these States, each year sees the tendency more strong to entirely obliterate any sectional barriers. As the railroad companies are principally relied upon for intercommunication, the question of rates is of vital importance. If a community is discriminated against, as it is claimed in the extracts we have referred to, it is obvious

that its business must be injured and its growth restricted if not deadened.

It is to be feared that Southern people have not been as alive to their interests in this respect as the Western people, for most of the effort to secure what is pronounced to be a fair rate has been made by Chicago and Cincinnati. The Atlanta Exposition has been already and is to be a powerful factor in stimulating the railroad tariff reformers in their work, as it will educate so many Western people, hitherto ignorant, to the importance of the South as a locality to do business, and when those who seek trade in the South encounter this barrier raised by the railroads they will be very willing to join in the efforts to level it. Thousands of the Western people who went to Atlanta were greatly surprised at the evident prosperity and progress of the country they traversed, and were perhaps as greatly surprised when they had to change cars at the Ohio river, as the railroad corporations would operate no solid trains between Chicago and Atlanta except special excursion or chartered trains.

This determination to make the Ohio river a barrier and to follow customs in transportation which should have ended with the civil war seems to be inspired through Eastern influence. The stock of the Louisville & Nashville in this country, for instance, is largely held in New York and other Eastern centres. But little of it is held in the West. The Times-Herald claims that many of its shareholders are interested in diverting as much Southern trade as possible to the North Atlantic coast and in cutting off the West, for the reason that they are not interested in the West. The merchants of New York and New England also favor this discrimination, as it reserves for them a choice territory which they have realized from experience is an important source of revenue. They are doing everything to increase this trade, and are aided in every way possible by Southern transportation companies which have terminals in New York, Philadelphia and the New England cities. Two great trunk lines run solid trains every day in the year between New York and Atlanta. During the winter season solid trains are operated over two routes between New York and Florida. Sleeping cars are operated between the metropolis and all the principal Southern cities. Although every train to the South from Washington has to cross the Potomac on the Pennsylvania Railroad bridge, that river does not begin to form such a barrier as the Ohio, although the latter is spanned by several bridges.

But there is no doubt that the Western people are thoroughly aroused to the opportunities they are daily losing to obtain business beyond the Ohio, and that they propose to resort to every honorable means to secure it. This is shown by the statement of President Elliott Durand, of the Chicago freight bureau:

"This is a case in which every merchant in Chicago and the Southeast is interested. There is no question that the Southern roads will ultimately be compelled to adopt the rates ordered by the interstate commerce commission. As far as the bureau is concerned, we have enlisted for the war. We will work in season and out of season to right the wrongs of the people of the South and Northwest. It is a conscienceless outrage on the people of both sections to build this Chinese wall of high rates between them. The people of the South are with us in this fight. They are extremely friendly toward Chicago and the Northwest, and would do a large share of their trading here if they could.

"It is an admitted fact that there are no two corresponding sections of the United States with such inadequate passenger service as that between Chicago and the Southeast. In this matter, as well as in the high freight rates, it must be understood that the roads between Chicago and

the Ohio river are in no sense to blame. They are willing and anxious to put the Southeast and Northwest in as close commercial touch as just freight rates and adequate passenger service can do it. Except in the case of the Chicago & Eastern Illinois Company, which runs a through train to Nashville, the Louisville & Nashville, it is claimed, absolutely refuses to take even one car from its connections at Louisville and Cincinnati. The Monon, Pennsylvania and Cleveland, Cincinnati, Chicago & St. Louis companies run from Chicago to both Louisville and Cincinnati, but 'thus far and no further' is the rule set up at these Ohio river points by the Louisville & Nashville. The Chicago and Ohio river lines are willing to make any terms by which they may be allowed to run a through car, but the Louisville & Nashville refuses to let them run a car even to Atlanta during the exposition. This refusal is made in face of the fact that the Louisville & Nashville has put on new trains from Louisville and Cincinnati to Atlanta, the sleeping-car equipment of which could as well be made up of cars from the Northern roads as not."

The MANUFACTURERS' RECORD is glad to note the earnestness which the Western people show in their desire to increase their commercial relations with the South. It is the best proof of the growing importance of these States for business opportunities.

GREAT SHIPPING FACILITIES.

A Remarkable Development for Foreign Trade.

Within four months a new seaport city has been created in the South. So rapidly has it been built that, although ocean steamships laden with cotton and other Southern products will be leaving its docks in a few days for foreign ports, few people know of its existence. Since midsummer thousands of laborers have been engaged on its wharves, elevator, compresses and other buildings, and what was a few months ago a Louisiana plantation is now ready to become one of the important shipping centres of the South and a community of several thousand inhabitants. As an example of what energetic men with ample capital are doing in the Southern States, it is truly remarkable.

In its issue of June 21 the MANUFACTURERS' RECORD gave its readers the first details of this project. Its inception was due to the organization of the New Orleans & Western Railroad Co., which was represented by Mr. E. H. Farrar, of that city. This company secured a charter to build a line from what was known as Battleground plantation, on the Mississippi river a few miles below the city, around its suburbs to Avondale, where a connection is made with the Illinois Central and Southern Pacific systems, and where a railroad bridge has been planned to be built across the river. The total length of this railroad which forms a belt around New Orleans is thirty miles.

To carry out the project what was termed the Delta Construction Co. was formed, and to this corporation is due the existence of Port Chalmette, the port of entry into which Battleground plantation has been turned. In referring to the project the MANUFACTURERS' RECORD, in its article of June 21, said:

"What is known as the Delta Construction Co. has been formed to build the road, with Mr. John L. Nisbet, of 40 Wall street, New York, president, and A. W. Swanitz, chief engineer. This company advises the MANUFACTURERS' RECORD as follows:

"The Delta Construction Co., building the New Orleans & Western Railroad, is in the market for one grain elevator, 500,000 bushels capacity; wharf construction amounting to 300,000 square feet, two 3000-ton cotton compresses, 140 laborers' cot-

tages, a large electric-light plant, water supply of 1,000,000 gallons daily, link-belt carrier and thirty miles of belt railway construction.

"Chief Engineer Swanitz telegraphs the MANUFACTURERS' RECORD that the railroad and buildings will cost fully \$1,500,000. The company will begin letting contracts about July 1."

Contracts were let during the first week in July for the principal buildings, as the notices in the MANUFACTURERS' RECORD had attracted the attention of some of the most prominent contractors in the country to the magnitude of the enterprise. A right of way for the railroad was cut through the woods for several miles, the town-site was graded and filled with earth in low places, piles and other supports were driven for the foundations of the elevator and compresses, the water-fronts dredged, and within a fortnight after the letting of contracts, the railroad and buildings were well under way. As already stated, so rapidly has work been pushed that most of the buildings are completed, and trains are being operated on the railway, while steamships will probably be loading at the wharves in a few days.

Port Chalmette, as it now stands, has a river frontage of three quarters of a mile, and the property runs four and one half miles back from the river, fully one-half of this being high land immediately available for building purposes. On the river space is a plot now in immediate use for terminal facilities, which is 3500 feet by 4000 feet, and this plot is completely belted by the main line of the road. Along the side next the main line of the railway and farthest from the river are cotton warehouses and sorting yards or sheds having a storage capacity of 100,000 bales of flat cotton, these being divided into into eighty fire-proof compartments, 60x90 feet each. Running between these buildings is a network of narrow-gage railway lines upon which light loading cars will be hauled by locomotives using only compressed air, thereby lessening the danger from fire, or, in fact, practically annihilating it.

The process employed in the handling of flat cotton received by the belt at any of its junctions will be as follows: The cars on the main line will roll the cotton directly into the sorting yards without any trucking. After it shall have been sorted or classed, it will be loaded upon the narrow gage cars and hauled directly to one or other of two powerful compresses, which will have a combined capacity of from 2000 to 2500 bales a day of ten hours. After having been compressed, it will be reloaded upon the narrow-gage cars, which will be hauled down to the edge of the wharf so closely alongside the steamship that the ship's derrick will swing it from the car directly into the ship's hold. Thus it will be seen that from the moment the flat cotton has been shipped by rail from the plantation it will be handled wholly by improved machinery up to the moment it shall have been dropped in its compressed form into the ship's hold. When this system has been compared with that now pursued in handling cotton at New Orleans, it will be easy to understand the nature of the advantages to be offered by Port Chalmette.

In the case of "f. o. b.," or compressed cotton, the process will be an extremely simple one, as the loaded cars received by the belt will be run directly to the wharf and loaded into the ship in the manner already described.

Thus it will be seen that while the cotton will be handled in the most economical manner by the latest labor-saving appliances, there are other advantages offered by the new port. As the risks from fire have been reduced to the minimum the cost of insurance will be greatly lessened, and as this will be carried by the company it may be said that the item of insurance will

be found to have been wiped out altogether. It may be added here that Port Chalmette is already provided with an excellent system of water works and that hydrants have been placed about the premises, so that anything like a disastrous fire would be a practical impossibility. The brick sheds and warehouses also have heavy fire-walls dividing them, and the fire-proof doors, which are sliding ones, fit several inches into grooves in the solid brick, rendering ignition through the joints an impossibility. For the handling of grain the facilities are also admirable. The grain cars are hauled directly to the elevator, and from this it is discharged into the holds of the steamers.

The wharf, which is ample enough to accommodate several large steamships, is 1500 feet long by 200 feet wide, and its ends are connected with the shore by curved lines of trestle work, whose combined length is 1500 feet. On this structure is a shed, which covers all but 300 feet of it. It has slips for five steamships, one slip being 400 feet, two 300 feet and one 200 feet long. The general outline of the front of the wharf is parallel with the course of the river, and each slip sets into it at an angle of forty-five degrees, so as to roughly resemble gigantic saw-teeth. The object of this is to enable the steamships to back out into midstream without the aid of a tug, as they lie at such an angle to the current that they have only to get up steam to start on their trips, the current aiding them to turn their bows down stream.

The company has not neglected the essential improvements of a city. Within the town is to be found the water-works system, which furnishes sufficient pressure on the hydrants to throw a stream over the top of the big elevator. Among other improvements which will be effected within the next few weeks may be mentioned an electric-light plant, which will very shortly be in operation; a large hotel, several stores, a postoffice and police jail and courthouse. Within the town limits are eight miles of standard-gage and six miles of narrow-gage railway, including sidings, switches, etc., while the main line of the road is about eighteen miles long. Anyone at all familiar with the topography of New Orleans and its surroundings will see at a glance that this stretch of railway connects with every road entering the city, and its projectors believe that the superior shipping facilities offered by Port Chalmette will induce all the railways entering New Orleans from the north and east, as well as the Texas & Pacific, to belt their freight southward from their respective junctions to the newly-established shipping port instead of hauling it into the city and submitting to the many extra transfer charges in force.

The contractors for the work were as follows: Cotton warehouses, T. Nicholson & Co., of Chicago; grain elevator, J. Stewart & Co., of St. Louis; wharf, Bowles & Dearborn, of New Orleans; cottages, E. Keplinger, of New Orleans; railway grading, J. A. Andrews, of New Orleans. The remainder has been done by company forces under the direction of Mr. A. W. Swanitz, the chief engineer and present general manager, to whose ability and energy the early completion of the work is largely due.

The Luray Caverns.

LURAY, November 16.

Editor Manufacturers' Record:

The meeting of the stockholders of the Luray Caverns Co., of this place, was held November 9. Among those present were Mr. Fred W. Schultz, Levi Z. Condon and J. Kemp Bartlett, of Baltimore, and Martin Lane, of Wilmington. After the adjournment of the stockholders' meeting, the directors met and elected Mr. Stephen Green, of Philadelphia, president, and Mr. J. Kemp Bartlett, of Baltimore, secretary-treasurer. The entire property owned by

this company is paid for, and the report of the officers, showing a very satisfactory condition, was unanimously adopted. Notwithstanding the need of a large tourist hotel here, the visits to the Luray Caverns have been very heavy, and the report of the directors shows that this is steadily increasing. Visitors from all parts of the world, scientists, explorers and tourists, are constantly stopping here for a visit to the wonderful caves. This company owns a very handsome site suitable for a hotel, and is anxious to make some very liberal arrangement to secure the construction of a first-class hotel.

F.

Wants a Larger Dock.

The Norfolk Business Men's Association has appointed a committee to urge the Virginia congressional delegation to advocate the construction of a new dry-dock at Portsmouth. Commenting on this the Portsmouth Star says:

"The greatest need of the Portsmouth navy-yard at present is a dry-dock of sufficient size to accommodate the larger vessels of the new navy. Congress failed to appropriate money for this purpose at its last session.

"If the larger vessels are to be repaired here we must have a larger dock. The naval officers are alive to the necessity for this dock. They have made the necessary recommendation, and it now remains for our people to organize in some manner and see to it that the influence of the entire Virginia delegation in Congress is exerted to have the construction of this dock ordered and the necessary appropriation made."

The Time to Build Railroads.

Although the general activity in the iron and steel trade has advanced prices considerably over what they were a short time ago, it is claimed that the present is a good time to build railroads. An authority on such matters claims that there never was a better time to build railroads to advantage than now. He holds that there is an abundance of money seeking investment where it looks safe and profitable. A good track can be built at 60 per cent. of the cost of a few years ago. While rails are somewhat higher than a year ago, they are still very low, even lower than iron rails at any time in the history of railroad building. Railway supplies, such as spikes, fish bars and iron for bridges and trestles, are even proportionately lower than rails. Cross-ties are about the same as for ten years past. This authority states that as good a road can be built today for \$12,000 per mile as could be built for \$20,000 per mile ten or fifteen years ago, when railroad building was at its highest.

One reason for believing in the coming year's prosperity in the iron and steel trade is that the opinion expressed in the foregoing is held by a great many. This it is thought will result in an increased demand for all sorts of railway material and consequent prosperity among the producers of such material. There is every reason to suppose that an era of activity in railroad construction is to set in soon. The depression of the past two years most effectually stopped railroad development. Meanwhile increasing population has made railroad construction and extension necessary, and the coming year will see this work being pushed—American Manufacturer.

THE Cotton Exchange of Savannah, Ga., at its recent meeting, elected Mr. W. W. Williamson, president; H. D. Stevens, vice-president, and Messrs. C. B. Maloy, G. P. Walker, C. S. Conradt, H. M. Hut-ton, Robert Billington, G. W. Dwelle, H. T. Williams, W. K. Pearce and Charles Ellis, Jr., directors. President Williams is one of the most prominent and active citizens of Savannah, and is an authority on cotton matters in the South.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 261.]

Industries Crippled by Freight Rates.

FORT VALLEY, GA., November 15.

Editor Manufacturers' Record:

If it can be shown that any manufacturing enterprise will pay here, it is easy to raise the necessary money to establish it. Our trouble is not to obtain the money to invest in factories, or the men to run them, nor are our natural advantages second to any in the North or East. We have more men and money than we have work for them. Unfortunately for us, a short-sighted policy prevails in the management of our railroads. They pay more attention to building up a through traffic than a local traffic, resulting disastrously alike to the roads and to the towns through which they pass. Present freight rates form a well-nigh complete barrier to most manufacturing enterprises. An example will illustrate my meaning.

Everyone has heard of the famous Fort Valley peaches. Our firm canned this season 250,000 cans as an experiment. Now for a few comparisons: Our freight rate on tin cans was 94 cents and \$1.04 from Detroit and Chicago, while canning points in the Middle and Eastern States, equally or more distant from Detroit and Chicago, pay 17½ cents. Our freights to local markets 100 to 250 miles distant were 25 (the lowest) to 45 cents, while the usual rate from other canning points for like distances is 7 to 11 cents. Our through rates to distant markets are 50 to 70 per cent. higher than other canners pay for like distances. Recently we shipped \$82.45 worth of canned goods to Atlanta, and paid \$17.55 freight, or 39 cents per 100 pounds. The distance is 105 miles. In less than car lots we pay 45 cents to Montgomery, Ala., but if, instead of stopping them in Montgomery, we let them go on to New Orleans, the rate is 37 cents. Montgomery is on the road to New Orleans, and is about one fourth the distance. There is some work here for the interstate commerce commission.

Another example: The Fort Valley Manufacturing Co had to shut down its plow handle factory last summer on account of freight rates. Its rate to Nashville, for instance, was seventy-four cents, while other factories, as far north of Nashville as we are south of it, enjoy a rate of twenty-five cents. In the face of such discriminations it is simply more profitable for a man to raise seven-cent cotton than to engage in general manufacturing. If Fort Valley were today given freight rates on manufactured products equal to the rates enjoyed by points in the North and East, in six months' time we would have projected sufficient manufacturing enterprises to give remunerative employment to every man, woman and child within ten miles of our town. You may argue it is not well to mention these drawbacks. We have been silent too long already. We are perfectly independent and indifferent as to what may be the effect of such publications upon the outside world. With equal freight rates we can more than hold our own with any section of country in America. Our pure water, salubrious climate, perfect health, our well-to-do planters, our rich cotton-fields, our timber comprising almost every wood used by mankind, our railroads diverging in six directions, give Fort Valley a commanding situation, all of no avail, however, as long as present freight rates continue. Our fruit, however, makes people rich in spite of the roads; it always outsells everything in the market. Do not understand that our town has no factories. We have several important ones. They form a mere bagatelle compared with what we could do and would do if the prohibi-

tive freight tariff was removed. Your paper I regard as the greatest power for good in our Southland, industrially speaking. Can't you inaugurate a determined warfare on this Southern States Freight Association that so much retards our industrial progress? If the roads south of the Ohio will treat us as well as the roads north of the Ohio are now doing, it would result in an industrial revolution in these Southern States.

W. H. HARRIS.

B. & O. Annual Meeting.

The annual meeting of the Baltimore & Ohio Railroad Co. was notable for several important changes that were made in the directory. Messrs. James Sloan, Jr., Wm. T. Dixon and Col. J. Willcox Brown retired, and Gen. Louis Fitzgerald, president of the Mercantile Trust Co., New York; Eugene Delano, of Brown Bros. & Co., bankers, London and New York; William A. Read, of Vermilye & Co., bankers, New York; Howland Davis, of Blake, Boissevain & Co., London, were elected to fill the vacancies, also that of Mr. Wesley Tucker, deceased. These four, with Messrs. William F. Burns, William H. Blackford, William F. Frick, Maurice Gregg, George C. Jenkins, Aubrey Pearre, Alexander Shaw and George A. von Lingen, comprise the new board.

The other members of the board are Baltimoreans. The new directors are financiers of high reputation, and are understood to be strongly in favor of the policy carried out by President Mayer and his associates.

The annual report, which is published in the advertising columns of the MANUFACTURERS' RECORD, shows that the net earnings and income of the Baltimore & Ohio for the last fiscal year were \$8,469,324. After the payment of interest on the bonded indebtedness, rentals, taxes and other charges, and twelve months' dividends on the preferred stocks, there remained \$1,409,681. Out of the remainder, payments aggregating \$770,164 were made to retire bonded indebtedness, principal of car-trust bonds and other obligations. This left a balance of \$639,516. The gross earnings increased \$314,519, the expenses increased \$240,354, and the net earnings increased \$74,165. There was an increase in tons carried of 2,723,248, or 20 3/4 per cent.

The extent of the improvements made to the system is shown by the items of over \$2,800,000 expended for maintenance of way, nearly \$2,100,000 for equipment, and nearly \$650,000 for construction work, a total of over \$5,500,000. Among the important improvements completed is the Belt Line electrical service, which is to revolutionize railway-tunnel travel, and which is pronounced to be entirely successful. Two large passenger stations in Baltimore, a repair and construction plant at Cumberland, several additional freight yards along the line, and a passenger station and terminals on Staten Island are other improvements planned or being carried out.

Seaboard Air Line Officers.

At the annual meeting of the Seaboard & Roanoke division of the Seaboard Air Line, the present officers were re-elected. They are: R. C. Hoffman, president; E. St. John, vice-president, and Enoch Pratt, L. McLane, Moncure Robinson, Charles D. Fisher, L. R. Watts and W. W. Fuller, directors. The Seaboard & Roanoke is the tidewater division of the system and extend from Portsmouth to Weldon, seventy-nine miles.

The directors of the Raleigh & Gaston, Raleigh & Augusta, Durham & Northern and Georgia, Carolina & Northern divisions of the Seaboard Air Line have re-elected the present officers. Mr. R. C. Hoffman is president of the R. & G., R. & A. and the D. & N. roads, and vice-president of the G. C. & N.

NEW DEPOT FOR ATLANTA.

Seaboard Air Line to Construct a Station to Cost Nearly \$100,000.

The Seaboard Air Line appreciates the advantages of Atlanta as a terminal point, and has decided to construct a modern passenger depot for its own use in that city. President R. C. Hoffman informs the MANUFACTURERS' RECORD that it will be located on Spring street, and will cost nearly \$100,000. It will be of the most approved construction, and will combine all the improvements of a modern railway station. This decision means evidently that the Seaboard Air Line is to have its own terminal facilities at Atlanta, and will not join in the project of constructing a union depot, which is now being considered.

The location is one of the best in the city for the purpose. It lies between the principal railroads entering Atlanta, and one of the main business streets, and is practically in the heart of the city, being about three blocks north of the present Union depot. It is understood that the depot will be used by both the Seaboard Air Line and the Western & Atlantic, its Western connection.

A Kentucky Line.

A dispatch states that the Hixson-Rodbourn Lumber Co., of Rodbourn, Ky., has disposed of \$250,000 in stock to build a line through Morgan county, in Eastern Kentucky. The road will commence at Maysville and run via Johnson Station, Flemingsburg and Hillsboro over the Cincinnati, Covington & Ashland Railroad tracks. From Hillsboro to Pine Springs the road will have to be built, a distance of fourteen miles. From Pine Springs to Rodbourn it will run over the Hixson-Rodbourn Lumber Co.'s track, a distance of ten miles. From Rodbourn via Elliottsville and Sandy Hook to West Liberty, a distance of thirty-two miles, it will be built. The road will in all be sixty-eight miles in length, and will be called the Ohio River & Eastern Kentucky Railroad.

It will open up the extensive canal coal fields in Morgan county. It will also develop a fine timber and farming country. The Hixson-Rodbourn Company has 200 men employed on its lumber road to Pine Springs, which will be completed soon.

New Tourist Route.

In connection with the plan to extend the Florida East Coast Railroad (Flagler system) to Biscayne Bay, the MANUFACTURERS' RECORD has received information that Mr. H. M. Flagler contemplates establishing a line of steamers between that point and Nassau, in the West Indies. As this is one of the most noted winter resorts on the globe, it is presumed that many tourists from the United States will visit it by way of Florida. The time between the Island and the coast of Florida is but thirty hours, while by the present schedule from New York the time required is three days. Work on the extension of the Florida East Coast Line is rapidly progressing, and it is expected to be completed early in 1896.

A Commendable Interest.

The problem that is now before the South is how to attract the men and money that are needed to develop our resources and farm our boundless acres. The Southern Railway is manifesting a commendable interest in this matter. True, it is not a disinterested manifestation, for the prosperity of the railway system is as dependent on the South as the development of the South is dependent upon the immigration here of more men with capital. But even though the Southern is working along the line of its own interests, its efforts are none the less acceptable, for in this particular, at least, its interests and the public interests are one. Recently the Southern has given

to the South what are known as "emigrant movables" rates, under which immigrants to the South can transport their belongings at a specially low rate.—Augusta Chronicle.

Railroad Display at Atlanta.

Visitors to the Atlanta Exposition speak enthusiastically of the several displays made by Southern railroads and transportation companies. Not only are the physical features of the various lines exhibited, but several of them have separate buildings on the exposition grounds, and have brought together special displays of commodities produced in the regions traversed by them.

In this way particular prominence has been given to the subject of transportation in its relation to Southern industries. The exhibits are not only comprehensive, but they seem to have been arranged with judgment, and the testimony is clear and emphatic that the railroad and steamship facilities of the Southern States is one of the great features of the Cotton States and International Exposition.

The fact, therefore, that the transportation facilities of the South have reached a point where they attract deserved attention is a matter of no small consequence. It means that the foundation of industrial and commercial greatness has been laid. It signifies also that the resources of that vastly fertile region have been made accessible to the mill and factory, and the material development of the territory below Mason and Dixon's line has proceeded to a point where progress necessarily will be rapid.

Naturally, much is made of the multiplying manufacturing plants and the additions recently noted to the producing agencies of the South, but more important still is the fact that the railroads are there to carry goods to market, and that natural waterways are abundant to afford cheap transportation in almost every direction.—Baltimore Herald.

Texas Rolling Stock.

According to the reports made to the Texas railroad commission, the rolling stock in use of railroads in that State at present consists as follows: Locomotives, 1111; first-class passenger coaches, 231; second-class, 149; combination, 49; baggage, express and postal cars, 200; other cars in passenger service, 686; box cars, 11,025; flat cars, 7077; stock cars, 1467; coal cars, 42; other cars in freight service, 252; total, 22,357 cars in freight service; officers' and pay cars, 21; derrick cars, 26; cabooses, 743; other road cars, 743; total cars in companies' service, 1293; total cars of all classes, 24,336.

Richmond to Baltimore.

The Seaboard Air Line has decided to place a line of steamers on the James river, and it is understood that what is known as the Roanoke, Norfolk & Baltimore Line, controlled by the Seaboard, will extend its service to Richmond. The boats, which are large but of light draught, will run between Richmond and Baltimore, touching probably at Norfolk and Newport News.

To Enter New Orleans.

A dispatch from New Orleans states that the East Louisiana Company, which owns a line from Pearl river to Covington, La., has secured the Spanish Fort Suburban Railroad and will use it to enter New Orleans. Mr. John Poitevent is president of the East Louisiana, which is twenty-five miles long.

A Good Showing.

The earnings of the Georgia, Southern & Florida Railroad for the four months ending October 31 show that the road is doing an excellent business. Gross earnings were \$288,512.63, net \$122,571.36. The interest and taxes amounted to \$68,600, leaving an excess to credit of \$53,970.36.

Improvements at Aransas.

Mr. Alexander Brown, of Baltimore; Mr. W. B. Brooks, Jr., and several other directors of the company which is deepening the entrance to Aransas Pass, Texas, have been inspecting the improvements and making a visit to the principal Texas cities. They found that the jetties being built have increased the depth of water on the bar from eight and a-half to twelve and a-half feet at low tide.

According to a dispatch from San Antonio Mr. Brown is quoted as being highly pleased with the progress of the work, and as stating that it would be carried out as rapidly as possible. The improvements include two terminal railroads to the harbor.

Mr. Brown and the Baltimore directors of the Aransas Pass Company have returned to the city from the trip, and one of the directors informs a representative of the MANUFACTURERS' RECORD that he regards the improvement as of the highest importance. It may develop in a very extensive enterprise, he states, and the company does not know yet where it will limit its operations.

Central Secures It.

A dispatch from Greenwood, S. C., states that the Port Royal & Western Carolina road has been sold by order of the court to representatives of Messrs. Thomas & Ryan, of New York. As these gentlemen represent the Central of Georgia system, the sale means that the Port Royal system, which extends to Augusta, Ga., Spartanburg and Port Royal, S. C., will be a part of the Central system.

Scarcity of Coal Cars.

In regard to the scarcity of cars in the South, the president of an extensive coal-shipping firm writes the MANUFACTURERS' RECORD that some of the companies are purposely allowing the supply of coal cars to diminish. "The fact is supposed to be," says the writer, "that in order to secure contracts for future supply at a price as low as received last year, they permitted their supply to so decrease that just at this time they feel compelled at last to appropriate to their own separate use a large share of the cars now being received, and thus discommode coal miners."

To Preserve Fruit in Transit.

The Pancoast Car & Manufacturing Co. has been organized with \$500,000 capital to make a fruit car on the patents of Mr. R. M. Pancoast. A feature of the car is the aeration process by which ice is dispensed with, while, it is claimed, fruit is kept as well or better than in transit in the usual refrigeration cars. A system of dry-air circulation is employed which the inventor claims keeps fruit from exhalations and moisture, and prevents decay. The company has an office in the Drexel Building, Philadelphia, and is reported as intending to build a plant in the South.

Railroad Notes.

MR. S. LANE has been appointed general manager of the Georgia Southern & Florida by Vice-President Shaw.

MR. E. P. BRYAN, superintendent of terminals of the Louisville & Nashville, has been unanimously elected general manager of the Terminal Railway Association of St. Louis.

THE Atlantic Coast Line has made several improvements in Florida service by which the time of one train from New York is shortened thirty minutes and another fifty minutes.

AT the South Baltimore Car Works, Curtis Bay, Md., fifty coal cars are being built for the firm of Black, Sheridan & Wilson, to be used on the Baltimore & Ohio Railroad.

THE Ohio River Railroad Co. has placed

an order with the Brooks Locomotive Works, of Dunkirk, N. Y., for two new locomotives for freight use. The freight traffic on the line is very heavy at present.

AMONG the orders being filled by the Lenoir City (Tenn.) Car Works are 500 cars for the Southern Railway Co., 250 cars for the Norfolk & Western and 100 cars for the Tennessee Coal, Iron & Railroad Co.'s system.

As an indication of the territory covered by the business of the Richmond Locomotive Works, it may be stated that at present it has representatives at Parsons, Kan., delivering four compound engines, built for the Missouri, Kansas & Texas Railroad, and at Seattle, State of Washington, delivering an engine to the Seattle, Lake Shore & Eastern Railroad.

At the annual meeting of the stockholders of the Knoxville & Ohio Railroad, held in Knoxville, Tenn., the following-named directors were elected: A. B. Andrews, Raleigh, N. C.; W. H. Baldwin, Jr., Washington, D. C.; C. H. Coster, John Greenough, Samuel Spencer, H. S. Chamberlain, Chattanooga; E. J. Sanford and C. M. McGhee, Knoxville. Most of the directors are connected with the Southern Railway Co.

THE annual reports of the Petersburg and the Richmond & Petersburg branches of the Atlantic Coast Line have been made public. The Richmond & Petersburg Company reported net revenue of \$128,305.86, while the Petersburg shows a net balance of about \$190,000. The gross receipts of the Richmond & Petersburg Company were \$374,925.38, and operating expenses \$251,562. The receipts of the Petersburg were \$512,986 and expenses \$312,353.

THE steamship *El Norte*, of Southern Pacific Line, recently made the trip from New Orleans to New York in four days four hours and fifty-six seconds, excelling the best previous record by twenty-three minutes. *El Norte* was built in the year of 1893 by the Newport News Shipbuilding & Dry Dock Co., and at the time of her first trial it was thought that she was destined to break a record. She is 406 feet in length over all and has a beam of 48 feet. Her tonnage is 4660. She is a Southern-built ship throughout.

UNDER the pleasing title of "The Happy Hunting Grounds, also Fishing, of the South," the Southern Railroad has just issued a beautiful and comprehensive book appertaining to the hunting and fishing of the States through which that system extends. This, indeed, comprises nearly the entire South, including Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee and Kentucky, as throughout these States the Southern Railway has its own lines. The book is entertainingly written by William Bruce Leffingwell, of Chicago, and the numerous illustrations are the work of well-known artists, making it an attractive little volume.

SOUTHERN CAPITAL IN THE NORTH

A Savannah Syndicate Buys a Pennsylvania Car Works.

The report that Southern people have purchased the Huntingdon (Pa.) Car and Wheel Works is confirmed by a correspondent of the MANUFACTURERS' RECORD at Savannah. A portion of the machinery will be moved to Savannah, where a plant is to be erected for building freight cars. The Huntingdon plant will be used for building electric and passenger cars. Mr. W. A. O'Byrne is one of the syndicate.

THE Board of Trade of Brunswick, Ga., has elected the following officers: President, C. Downing; first vice-president, H. W. Reed; second vice-president, M. Kaiser; directors, A. F. Churchill, W. B. Burroughs, O. N. Taylor, F. D. Aiken, G. W. Coates, H. A. Wrench, E. F. Coney, E. H. Mason, W. M. Tupper.

FINANCIAL NEWS.

Extending Its Business.

The American Banking & Trust Co., of Baltimore, is extending its business in the South, and is attracting much attention. A recent issue of the Charleston (S. C.) News and Courier says:

"The American Banking & Trust Co., of Baltimore, Md., with resources of over \$1,000,000, has been licensed to do business in this State, and is represented in Charleston by the well-known insurance agent, Capt. Henry Schachte.

"It is approved by the United States and State authorities as sole surety on the bonds of executors, administrators, trustees, receivers, etc., and in all causes in any court in which a bond is required. It also guarantees the fulfillment of contracts and gives bonds for officers and employees of banks and all other organizations."

A \$16,500,000 Bond Issue.

The reorganization committee of the Central of Georgia Railway Co. have decided to place on the market an issue of \$16,500,000 in 5 per cent. 50-year gold bonds, which will replace the former securities of the system. This issue will be a lien upon about 1500 miles of railway, in addition to the Ocean Steamship Co., which is controlled by the Central of Georgia; also its tidewater terminals in New Jersey and Savannah. It is claimed by the reorganization committee that the present earnings of the system will much more than pay the interest upon these bonds, as the fixed charges of interest and rentals have been reduced about one-third by the refunding of securities. According to the reports from June 30, 1895, the surplus earnings of the system were \$2,122,885.59, nearly \$300,000 more than the total interest and rentals. The New York Guarantee & Indemnity Co., of 65 Cedar street, and the Mercantile Trust Co., 120 Broadway, New York, are placing the bonds.

American Securities Abroad.

Every well-informed dealer in securities will acknowledge that at present European investors have a deep distrust of American securities. On account of the bankruptcy into which several large railroad companies have been forced by the extravagant policy of their officials or by the modes of unscrupulous manipulators, it is unnecessary to say that foreign shareholders have lost heavily, and hence the reason for this distrust. Unfortunately, the good is not singled out from the bad, and an adverse feeling is manifested towards all grades of securities, Southern as well as Northern.

Mr. Henry Beneke, one of the United States consuls to Germany, has recently made an interesting report on the subject. The pith of Mr. Beneke's report is to the effect that exaggerated distrust of American railway securities still lingers among German investors, as a result of defaulted interest and receiverships, and that millions of German capital might be brought to this country when the imperial government attempts the conversion of the public debt in the immediate future if this distrust could be removed. Mr. Beneke's proposition is the establishment of a bureau of information at the expense of the railways, where stock quotations, reports of condition and earnings and other facts affecting the railways could be kept on record for the information of German investors. The present tendency to let "Americans" alone he attributes to lack of information regarding the particular roads which are in default, and the condition of those which are still paying interest on their securities. News of the rise in price of such securities, the resumption of interest payments and the increase of earnings would, he believes, have a marked effect upon the investment market. He men-

tions the fact that money is abundant and has to be invested at unsatisfactory rates by savings banks as well as bankers and investors, and declares that there will be a still greater plethora of loanable capital when the government proceeds to convert the 4 per cent. and the 3½ per cent. securities at a lower rate.

The idea is certainly worthy of consideration. Some plan ought to be adopted to remove the lamentable foreign ignorance of our stocks and bonds, as well as our country.

New Corporations.

A bank is about to be opened for business at Louisville, Ala.

The People's Bank of Somerset County has been organized at Princess Anne, Md., by Benjamin F. Lankford and others, of Somerset county, and J. Townsend Scott, of Baltimore. It will have \$25,000 capital.

New Securities.

The town of Elkins, W. Va., has decided to issue \$25,000 in bonds to build a water-works system.

The city of Raleigh, N. C., will vote on an issue of \$50,000 in bonds for street improvements on January 14.

The Hamilton County Court at Chattanooga, Tenn., has decided to sell \$25,000 in bonds to liquidate indebtedness. Chairman Carter will give information of the sale.

An issue of \$409,950 of Bexar county (Texas) refunding bonds has been sold by Treasurer Froboese, financial agent of the county, to C. H. White & Co., of New York. The bonds bear 5 per cent. interest and forty years, with option to redeem after ten years. The price to be paid is par and accrued interest and \$2306 premium. San Antonio is located in the county.

Interest and Dividends.

The Virginia Brewing Co. of Roanoke has declared a 6 per cent. dividend.

The directors of the Durham & Northern Railway Co. have declared a dividend of 2½ per cent.

The Petersburg and the Richmond & Petersburg Railway Companies have each declared a semi-annual dividend of 3½ per cent.

The Second National Bank of Baltimore has declared a semi-annual dividend of 3½ per cent., clear of taxes, payable on demand.

Financial Notes.

THE last statement issued by the Bank of Camden, S. C., shows that this institution, which was opened in 1888, has now a surplus of \$26,500, \$1500 more than its capital.

The Tennessee Centennial.

The management of the Tennessee Centennial Exposition is certainly following out a liberal policy, and the MANUFACTURERS' RECORD trusts that its efforts may meet with the appreciation deserved. To encourage exhibitors it has decided to make no charge for space in any of the exhibit buildings.

On the urgent recommendation of the director-general it has been decided that the Art Building, the Parthenon, be made fire-proof. A foundation will be built inside the present foundation of stone, and the walls will be built of brick, the roof of iron and glass and the floor of cement. The owners of valuable paintings and other works of art naturally are averse to risking them in structures usually erected at expositions, owing to the danger of fire. For this reason the art displays, as a rule, at such events have been noticeably poor and deficient in contrast with other features. The enterprise of the Tennessee projectors is highly commendable in this respect, and should be appreciated by art connoisseurs.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on page 260.]

A \$1,000,000 Mill.

The big print mill noted last week as to be built by Southern and Northern capitalists will be capitalized at \$1,000,000. Mr. David Trainer, of Fort Mill, S. C., is representing the interested parties, and a suitable location for the mill is now being sought. It is proposed to install an equipment of 30,000 spindles and 1000 looms.

Textile Notes.

EASTERN capitalists have made a proposition for the erection of a \$200,000 cotton mill at Aberdeen, Miss.

A COTTON MILL company is being organized at Inman, S. C., and over \$20,000 has already been subscribed.

MR. J. R. HILL, of Greenville, S. C., has purchased the Fork Shoals Mill, of 2490 spindles, at Fork Shoals, S. C., and will put it in operation.

THE Business Men's Club of San Antonio, Texas, has inaugurated a movement for a cotton mill. A committee has been appointed to solicit subscriptions.

THE Warwick Mills, at Augusta, Ga., have been compelled to enlarge in order to meet the demand for its goods, and the main building is now being enlarged. Additional spindles—1700—and 150 looms will be put in.

THE new mill of Mr. W. L. Holt, at Fayetteville, N. C., will be two stories high, with basement, 400x100 feet in dimensions. About 400 looms and 10,000 spindles will be put in, and the output is to be plaid goods.

MR. J. B. FICKLIN, of Fredericksburg, Va., is credited with the statement that a Massachusetts company wants to remove its cotton mill to Fredericksburg. The mill employs 100 hands, and is valued at \$150,000. A subscription of \$50,000 for bonds is the terms on which the removal is contemplated.

MESSRS. GEO. M. HODGES, Sam Rothenberg, of Meridian, and L. Cohn, of Tuscaloosa, have gone to New York as a committee to purchase machinery for the Meridian Cotton Mills, at Meridian, Miss. The contract for buildings has been awarded to C. M. Rubush, and he is about to commence work on same; plant will cost \$200,000.

Tennessee as a Coal Centre.

OFFICE OF COAL CREEK COAL CO., }
KNOXVILLE, TENN., October 30 }

Editor *Manufacturers' Record*:

In your issue of October 27, page 6, you speak of Birmingham as a centre of both coal and iron interests in the South. We object to the word coal being here included. Coal Creek coal, with mines at Coal Creek, Anderson county, Tenn., thirty miles from Knoxville, is the best bituminous coal in the United States, so far as all tests heretofore made have decided. These include Pittsburg, Virginia, Kentucky and other Tennessee coal. You may remember the United States only recently at Mobile, by use on the steamer Montgomery, made a test between all of the above coals, except the Pittsburg, and gave to Coal Creek coal the award of highest steam capacity. For gas, steam and domestic purposes it is unequalled anywhere. Its quantity is in abundance, easily mined, veins lying almost level of four and a-half to six feet in thickness, with good tops and bottoms of slate. This Cumberland Mountain coal of East Tennessee is therefore the centre of coal production. By a recent test its quality for coke surpasses that of the Pocahontas (Va.) coal.

E. C. CAMP, President.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Couldn't Deliver His Goods.

Edward Atkinson recently told the following anecdote as illustrating a human failing very frequently to be seen: "When cottonseed oil was under the ban of popular prejudice and the law as well, a Chicago lardmaker shipped some lard 'adulterated' with cottonseed oil to Europe. It was pronounced excellent lard. It was liked so well that he received a great order for 10,000 tierces. But at this juncture he could get no oil, and was forced to ship pure lard. The consignee pronounced it 'off sample,' and wouldn't have it, and the unfortunate Chicago man lost a large sum of money." The lard dealer was rendered powerless because he had bitten off more adulteration than his factory could chew.—Ex.

The Market for Cottonseed Products.

NEW YORK, November 19.

The cotton-oil market has further advanced, while the speculative sentiment which recently prevailed has for the time subsided. A fair proportion of the week's sales of prime summer yellow was effected on a 30-cent basis, while holders are firm in their views, full prices being a peremptory stipulation in current transactions. The high prices have, however, still further restricted the prevailing slow export demand, while similar conditions obtain with regard to domestic trading. The fact that the higher prices bid by the mills for seed has not been responded to with the alacrity which was expected, constitutes a very serious drawback to continuous active mill operations. An average volume of receipts is arriving, but no disposition is evidenced to precipitate sales even at the advanced quotations. Sales of Texas crude in bulk are now transacting at 20½ cents, although from nearer shipping centres 20 cents bid promotes business. Good off-grade yellow is held at 29 cents, while for prime crude in barrels 25 to 26 cents is asked. The situation has been taken advantage of, with regard to the advanced market, by the English manufacturers, in increasing refined oil from 17s. 3d. to 17s. 6d., at which figure current continental needs are supplied. American oil being correspondingly neglected. At this writing it is safe to assume that for all purposes other than that of an edible nature, English oil, although very inferior to American, obtains preference to the latter in all European countries, solely by reason of its being cheaper. The proportion of cotton oil going into consumption for compound lard manufacture is probably of a more limited character at this time than at any previous period in 1895, nor may any material betterment be expected in this direction with the original product at 5 85 cents, as now quoted. Compound lard is quoted at 4½ to 5 cents, as to quality and quantity, and May lard, Chicago, 5 82 cents. Sales reported for the week aggregate 60,000 gallons of prime summer yellow at 29½ to 30 cents; 200 barrels choice white at 33 cents; 120 barrels off-grade white, 30 cents; 300 barrels off-grade yellow, 28½ cents; 550 barrels prime crude, 24½ to 25½ cents, and ten tanks bulk crude at 20 cents. Exports aggregate 235,000 gallons, chiefly to Trieste and Marseilles. The various grades are quoted as follows: Prime white summer, 32 to 33 cents; butter oil, 31 to 32 cents; prime summer yellow, 29 to 30 cents; off summer yellow, 27½ to 29 cents; prime crude, 25 to 26 cents; prime crude at the mills, 20 to 21 cents; off crude, 23 to 24 cents, and soap stock, 1 to 1 16 cents per pound.

Cake and Meal.—A novel feature in connection with the exports of American mill-

feeding products is comprised in the fact that cotton cake is quoted at from 2s. 6d. to 5s. per ton higher on the English markets than linseed cake of the best brands—a circumstance which clearly indicates the views entertained of the relative merits of each commodity. No noteworthy happening with regard to the home trade has occurred since date of previous letter. Exports aggregate 6000 bags cake and 3500 bags of meal, Liverpool and Havre being the objective shipping points. Parcels now arriving abroad are rapidly disposed of. New Orleans quotations, \$17 per long ton, cake or meal; cottonseed, \$8 per ton of 2000 pounds delivered; hulls, 15 to 20 cents per 100 pounds. Receipts of meal at Boston aggregate 200 tons for local consumption.

Cottonseed-Oil Notes.

THE Barnwell Oil Mill, of Barnwell, S. C., has closed down, owing to its inability to get seed at the price they are paying. The farmers say that cottonseed is worth more for fertilizers than the mills are paying.

THE market for cottonseed products at Houston, Texas, during the past week has been firm at an advance. The offerings of meal and cake were light, and sales were reported at \$13 50 per 2000 pounds f. o. b. at mills, buyers on the 16th inst. asking \$14. Cottonseed oil was firm and the demand brisk for refined. A few sales at 20 cents were made, but mills are now holding at 21 cents, and even higher. The following quotations were posted on the 16th inst. by the cottonseed department of the Houston Cotton Exchange and Board of Trade: Choice crude oil for butter oil and strictly prime crude, 20 cents; prime crude, 20 cents; prime butter oil in barrels, 27 to 28 cents; prime summer yellow oil, 22 cents; prime cottonseed cake and meal, \$13 to \$14.50 f. o. b. mill at interior points, according to location; cottonseed hulls, \$3 to \$3 50; linters—A, Houston delivery and classification, 4 cents per pound; soap stocks, foots from refined oil, 50 cents bid; 60 cents per pound asked.

THE market last week in New Orleans for cottonseed oil was very firm. Quotations on "Change, 22½ cents for prime crude in bulk; yellow, 27½ cents in barrels; meal, \$19 to \$19 25; cake, \$19 to \$19 25 per long ton for immediate delivery. Receivers' prices for cottonseed products were as follows: Cottonseed, \$8 per ton of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal, jobbing at depot, \$16 per short ton of 2000 pounds; for export per long ton of 2240 pounds f. o. b., \$18 for current month; oil-cake for export, \$18 to 18 25 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment for September or October delivery, strictly prime crude in barrels per gallon, 21½ to 22 cents; loose per gallon, 18 to 19 cents; refined cottonseed oil, prime in barrels per gallon, at wholesale or for shipment, 25 to 25½ cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 20 to 25 cents; foots, 1¼ to 1¾ cents; linters, 3¼ to 4½ cents, according to style and staple; ashes, none.

A CHARTER was granted last week to the Polk Miller Drug & Chemical Co. of Richmond, Va., to manufacture and sell drugs and chemicals. The capital stock of the company is to be not less than \$5000 nor more than \$10,000. The officers of the company are Polk Miller, president; W. Withers Miller, vice-president, treasurer and secretary; and the directors, besides the president, are Messrs. Henry G. Benson, H. A. Coleman and M. L. Miller.

MR. F. N. PIKE, who for the past ten years has been manager of the Hygeia Hotel, has secured a lease on the property for a term of years, and takes charge on December 1. He will make several important improvements to the hotel, which is one of the most popular resorts in the South.

PHOSPHATES.

Phosphate Markets.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, November 21.

In the local phosphate market the volume of business during the past week has been of moderate proportions. There is some demand from out-of-town buyers, and several large lots have been sold during the week. The situation at points of production is improving. In South Carolina there is a good demand from coastwise ports, and also some business being done with foreign buyers. Land miners are generally pleased with the outlook, and work at the mines is being pushed with considerable vigor. At Charleston prices rule very steady at \$3 for crude rock, \$3 50 for hot-air-dried and \$5 to \$5 50 for ground rock. There is a more active movement among Florida miners, and a large number of operators have gone to work in the hope that better prices will soon prevail. Prices are nominally steady, with sales at 6½d. for a continental port. Land pebble is quoted 8 to 8½ cents per unit at Eastern ports. The arrivals during the past week were the schooners Annie E. Lane with 1400 tons of phosphate, and the Sarah E. Palmer with 1800 tons, both from Tampa, Fla. The only charter reported was the schooner James P. Bergen, Tampa to Cartaret, N. J. The New York charters reported during the week were as follows: A schooner, 206 tons, from New York to Boston with phosphate at \$1.40 net ton; a schooner, 536 tons, from Philadelphia to Dale Creek, S. C., with coal at 87½ cents, and back from Ashepoo river with phosphate rock at \$1.90; a schooner, 615 tons, from Port Tampa to New York with phosphate rock at \$1.90 net, and two barks 1066 and 1111 tons, from west coast South America to the United Kingdom or Continent with nitrate 23s., less 1s 3d. direct; option to Hampton Roads for orders 22s. 6d., less 6d. direct, chartered abroad.

FERTILIZER INGREDIENTS.

The market has ruled quiet during the week and the business reported is of light volume. There is a fair inquiry by Southern buyers for leading ammoniates, and values are generally firm. Stocks in the West are reported light, both of blood and tankage. The bulk of business has been mostly for spot and new delivery, and very little for forward deliveries. Nitrate of soda is quiet and steady.

The following table represents the prices current at this date:

Sulphate of ammonia, gas.....	\$2 50@	\$—
Sulphate of ammonia, bone.....	2 50@	—
Nitrate of soda.....	1 35@	1 90
Hooft meal.....	1 80@	—
Blood.....	1 85@	1 90
Azotine (beef).....	1 80@	—
Azotine (pork).....	1 85@	—
Tankage (concentrated).....	1 80@	—
Tankage (9 and 20).....	1 60 and 10	—
Tankage (7 and 30).....	17 00@	17 50
Fish (dry).....	20 50@	—
Fish (acid).....	15 00@	—

Phosphate and Fertilizer Notes.

IT is stated that the Consolidated Phosphate Co. at Dunnellon, Fla., resumed work on the 11th inst., and is now operating ten plants.

THE Camp Phosphate Mining & Manufacturing Co., near Albion, Fla., is putting in new machinery, but no definite time is set for commencing operations.

AFTER being shut down for the last six months the works of the United States Phosphate Co. at Acme, Polk county, Fla., are again in operation on a small scale.

THE Palmetto, Bone Valley and Land Pebble Phosphate Companies near Bartow, Fla., are now in continuous operation and shipping large quantities of phosphate rock.

IT is reported that the phosphate mines of the Alachua and Piedmont Mills & Mining Co., which have recently been leased by a syndicate composed of B. Arentz, J. V. Burke and Ed Miller, will begin work immediately. These mines are

located at High Springs, Fla., and will probably have a large output.

IT is stated that the Terraccia Phosphate Co. at Pebbledale, Polk county, Fla., will be reorganized. It is supposed that work will be begun immediately after reorganization.

THE British steamship Buckminster was expected to arrive at Fernandina, Fla., on the 14th inst. to load phosphate rock for the Dunnellon Phosphate Co. She will take out 2600 tons.

A DEED of assignment was recorded last week in Norfolk, Va., from the Standard Guano Co. of that city to T. Harvey Daughtrey, trustee; liabilities, \$10,000. There are no preferences.

THE Schwarzschild & Salzberger Packing Co., of Kansas City, Mo., has given its local manager instructions to have plans drawn for a new fertilizer building, which will be put up as soon as possible.

THE steamship Tynedale cleared from Fernandina on the 12th inst. with 2886 tons of hard-rock phosphate for Rotterdam, shipped by Gus Gudehus, agent for account of Fr. Gesterding, of Hamburg, Germany.

AT a point near Ocala, Fla., the Hartshorne Phosphate Co. has erected a new plant. The Anita Phosphate Co. is also putting in an additional plant, which will probably be completed in about a month.

IT is rumored that the Trenton Phosphate Co.'s plant, located in Alachua county, near the Suwanee river, and which has never been operated, has been sold to a French syndicate. The plant is one of the most extensive in the country.

MR. J. BUELLGENEACH, of Belgium, closed a trade last week with Fulton & Alworth for their phosphate plant near Inverness, Citrus county, Fla., the consideration being \$25,000. This is said to be the largest price ever paid for a 20-acre tract of phosphate land in that county.

THE Central Peninsular Muck Mining & Manufacturing Co. is building a plant at Inverness, Fla., the roof of which will cover two and one-half acres. This company, which has been developing the muck beds of Tsala, Apopka Lake, in Citrus county, has discovered what seems to be a vegetable matter gelatinized, which they will mix with soft phosphate and place on the market as a special brand of fertilizer. The company, in its operations, will make use of three scoop dredges.

THE phosphate shipments from the port of Charleston, S. C., for domestic ports, for the week ending November 16, are as follows: Schooner Oscar C. Schmidt for Mantua Creek, N. J., 770 tons; brig H. B. Hussey for Boothbay, 850 tons; schooner T. W. Dunn for Weymouth, Mass., 950 tons; schooner May Curtis for Richmond, Va., 750 tons, and schooner David Baird for Baltimore, 1100 tons—total, 4420 tons. The total shipments of crude rock to domestic ports since September 1 amount to 23,823 tons, against 18,237 for the corresponding period last year.

To Assist the City.

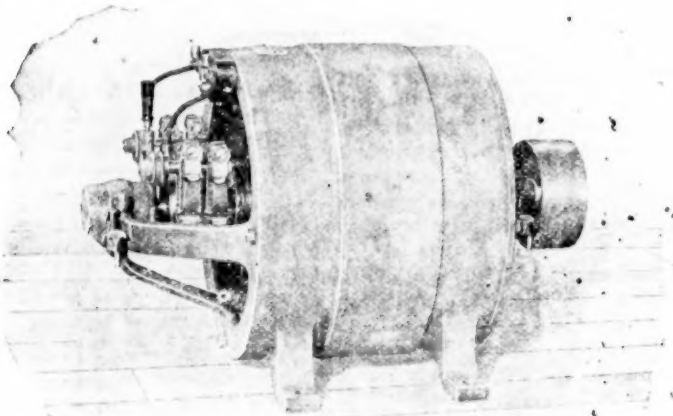
Business men and other residents of Fort Worth, Texas, have formed the Citizens' Promotive Club, with the object of developing the city industrially, commercially and otherwise. The officers are: J. E. Mitchell, president; George Strong, vice-president, and the following directors: J. E. Mitchell, E. M. Schencke, George Strong, F. C. Barron, W. E. Skinner, Glen Walker, H. J. Goldberg, B. B. Paddock, R. F. Butts, A. S. Dingee, John E. Weeden and N. Washer.

MR. S. W. WOODWARD has been elected president of the Washington (D. C.) Board of Trade. Thomas W. Noyes and Charles J. Bell are vice-presidents, and Thomas Somerville and John B. Wight, treasurer and secretary, respectively.

MECHANICAL.

Ironclad Generators and Stationary Motors.

The list of slow and moderate speed four pole dynamos and motors of the General Electric Co. has been supplemented by a series of machines adapted to smaller output than is practicable with the four-pole type. They are classed under the head I. B., from the fact of having an ironclad bipolar frame, and are built for various outputs—from three-quarters to four and



IRONCLAD GENERATOR AND STATIONARY MOTOR.

a-half kilowatts as generators, and from one to five horse-power as motors.

The frames are cylindrical and are supported on short legs. This brings the centre of gravity very low, and conduces to stability and steadiness when running. The space occupied by the machine is small for its output, and its shape and construction allows of its use in positions where machines of the ordinary bipolar type could not well be placed. The armature has a toothed core, with the conductors imbedded in the slots. Ample cross-section has been allowed the copper in the field and armature windings, and the insulation is of the highest grade.

and for the operation of small pumps, ventilating fans, machine tools, etc. A large number of these I. B. motors are already in use. The generators are successfully used in isolated plants and in cases where a small amount of current economically generated is desired.

The Mason Improved Steam Pump.

An improved type of steam pump, made by the Mason Regulator Co., Boston, Mass., is shown on this page.

In the Mason improved steam pump, the action of the valves are such as to main-

tain a perfectly continuous motion of the steam piston while operating at the slowest speed and under any pressure, thus avoiding what is termed a "dead centre," and rendering the pump absolutely positive in its action.

Every part of each pump is made by special tools, so that the same parts of each size are interchangeable on different pumps. The valve operating lever has hardened-steel contact pieces working on a hardened-steel roll. The auxiliary cylinder can at any time be instantly removed without disturbing either the steam connections or the valve-gear.

Steam Production.

Economy in steam production affords a field which has attracted the best efforts of many inventors. When it is remembered that one pound of ordinary coal contains enough heat energy to do the work of five horses for one hour, and that it is not unusual to find that but one horse power is obtained from two pounds of coal, showing a loss of 90 per cent. of the power of the fuel, it is not surprising that from every part of the civilized world new devices are brought forward, each claiming to convert into work a measure of that 90 per cent. The greater part of this loss is due to the latent heat of steam, and may be charged against the engine. It is said that a well-designed boiler with good draft will take up 82 per cent. of the total heat combustion. Assuming a combustible to contain 14,000 heat units, and that you are evaporating eight pounds water per pound combustible, then the efficiency of your boiler is 8 multiplied by 966 divided by 14,000 equals 55 per cent.

If you are evaporating nine and one-half pounds water, then the efficiency of boiler is $9\frac{1}{2}$ multiplied by 966 divided by 14,000 equals 65 per cent.

If your evaporation be eleven pounds water per pound combustible, then the efficiency of boiler is 11 multiplied by 966 divided by 14,000 equals 75 per cent.

The loss in each case would be respectively 45 per cent., 35 per cent. and 25 per cent.

As it is not possible to transmit to the water in the boiler all the heat of combustion, there being a certain percentage required to pass out through the stack to furnish draft, losses by radiation and admission of cold air above the grate, it is evident that the possibility of effecting any considerable saving in plant already working up to 75 per cent. is extremely doubtful.

Everybody knows that water in an open vessel boils at a temperature of 212° F., and that the temperature of the ascending vapor is 212° F. Why is it then that the whole body of water, when it reaches the temperature of ebullition, does not suddenly fly into a tremendous volume of steam; in other words, when the point of vaporization is attained, why does it not explode? Each pound of water, after it has reached the boiling point, requires 966 units of heat to convert it into steam. This does not increase the temperature, and is called the latent heat of steam. It is because of this that water does not vaporize suddenly. It requires time to communicate this heat to the water.

As it is not possible to compare two boilers working under different conditions on the basis of so many pounds coal actual work, all calculations on boiler efficiency must be reduced to one common level, and this is done by ascertaining the heat units—British thermal units (B.T.U.)—transmitted to the water from each pound of coal, and this, divided by 966—the latent heat of steam—gives what is termed the equivalent evaporation from and at 212°, which simply means the pounds of water that would have been evaporated in an open vessel from liquid at temperature of 212°. It is also necessary to have a common basis of value for coal, as some grades contain more impu-

rities than others. So that in computation of relative efficiency evaporation is measured per pound of combustible, that is, the total weight of coal, less the weight of ashes and refuse.

Brown says his boiler is evaporating ten pounds of water per pound of coal, the temperature of feed water is 80°, steam pressure 100, and his coal contains 20 per cent. ash.

Smith says his boiler is evaporating eleven pounds water per pound coal, temperature of feed water 200°, boiler pressure 130, and his coal contains 10 per cent. ash. These men understand each other to mean that if the coal were without ash, and the water was evaporated in an open vessel from water at 212°, the relative efficiency of their boilers would be as ten to eleven.

In tests for evaporation, the work done being measured by the combustible or that which disappears in burning, it is quite possible to show, under certain conditions, an evaporation higher than consistent with correct practice.

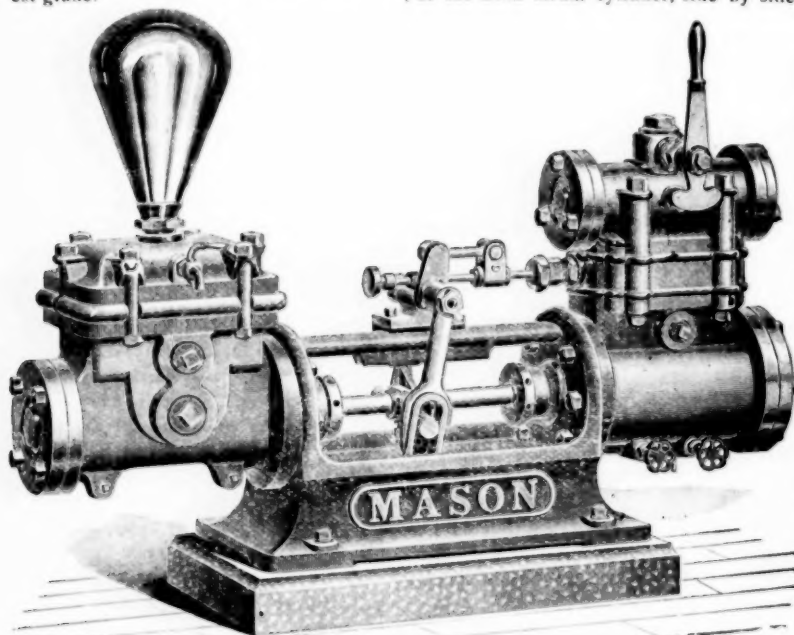
Coal consists principally of carbon, and one pound of carbon will give 14,500 heat units, but in addition to fixed carbon, certain volatile gases are distilled from the coal and burned quickly when brought in contact with sufficient heat.

As one pound of carburetted hydrogen will evaporate twenty four pounds water, and one pound olefiant gas will evaporate twenty-two pounds water, and the slow-burning carbon will evaporate but fifteen pounds, it is evident that with good combustion of these gases, by shaking the partially-consumed fixed carbon through the grate, and with fresh coal keeping up the supply of light gases, a high evaporation will be shown per pound of combustible. There can be little doubt that tests showing extremely high evaporation have been obtained in this way, partially consumed carbon being charged off as ash and refuse. It is possible for one boiler to evaporate eleven pounds water per pound of combustible, and yet show a less saving in fuel than another evaporating ten pounds.

This statement is made to recognize the fact that a high-test efficiency may be shown per pound of combustible without a corresponding saving in fuel.

It is claimed by some engineers that an anthracite-coal fire should not be disturbed simply supply coal until the fire ceases to do the work required; then clean and start again.

In support of this statement it is said that any disturbance beneath causes coal to mix with the ashes, and is consequently lost. While such a thing is possible, it does not occur in good practice. On the other hand, special attention is called to this—that when a fire is cleaned in the old way—by hauling ashes out at furnace door—the cooling of furnace during cleaning necessitates an open damper for some time after, and the layer of coal on grate being thin, a greater quantity of air passes through the fire than is needed, and in ordinary practice ten pounds of surplus air carries away sufficient heat to evaporate one pound of water. As the fire becomes thicker, the passage of air is retarded, and for a time the combustion is nearly perfect. Soon a bed of ashes collects on grate; sufficient air cannot reach the coal, and as a result the heat of furnace gradually decreases until it becomes necessary to clean fires and start anew. When the fire was at its best, each pound of combustible was equal to evaporation, theoretically, of fifteen pounds of water. When it became necessary to clean, each pound of combustible was equal to the evaporation of less than five pounds of water, and during all the time that the efficiency was decreasing from 15 to 5 per cent. coal in the form of partially consumed gas was rolling out the stack. It will readily appear as real economy to keep fires at a proper thickness at any outlay than to send tons of



THE MASON IMPROVED STEAM PUMP.

The brush-holders are designed to hold the brushes firmly and evenly upon the commutator, adjusting themselves readily to the wear of commutator and brush, preserving under all conditions a good contact without excessive friction.

The speeds are comparatively low, varying from 1800 to 1000 revolutions per minute, according to the size of the machine.

They are especially adapted to the requirements of small motor service. Their small size, low speed, high efficiency and simplicity of construction render them peculiarly valuable in printing, wood-turning and establishments of similar character,

and receiving their motion by a yoke connected to the valve-stem by means of a collar and T-slot, this yoke sliding in a raceway contained in the steam chest.

The duty of the main valve is to alternately admit and exhaust steam to and from the main steam cylinder, in the usual manner, and also to control an auxiliary port, this single auxiliary port being made common to both ends of the auxiliary cylinder, through the action of the preliminary valve, which acts as a switch, alternately connecting the single auxiliary port with each end of the auxiliary cylinder. It will be seen from this that only one active

coal up the stack containing from 25 per cent. to 70 per cent. of its original heat.

To get perfect combustion a certain quantity of air is absolutely necessary, and this cannot be supplied if the grate is covered with a thick layer of ashes. To keep fires the right thickness and obtain the best results it is necessary to remove the ashes without disturbing the surface of fire. If this is done, a uniform thickness of fire is maintained. When the supply of air to burning coal is insufficient, as, for

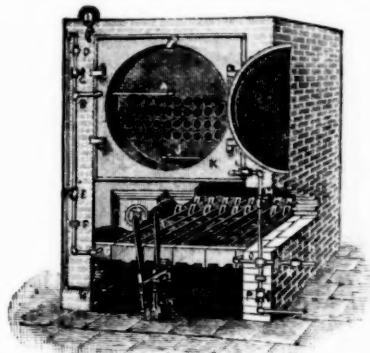


FIG. 1.

instance, when fires become thick through accumulation of ashes, one atom of carbon unites with one of oxygen, and the product of combustion is known as carbonic oxide CO. In this condition each pound of combustible has parted with 4452 heat units, and still contains 10,048 units, 70 per cent. of the total going up the stack unconsumed. When the proper quantity of air is brought in contact with burning coal, one atom of carbon unites with two of oxygen, and the product of combustion is known as carbonic acid CO₂ and in this state each pound of combustible has parted with all the heat it contains; this is 14,500 units. It is plainly evident then that a loss ranging up to 70 per cent. can be traced directly to an insufficient supply of air.

To overcome these disadvantages is the object of the Reagan grate, which is illustrated herewith. A series of tubes is the feature of this grate. These tubes have three functions, viz, they heat the feed water; in doing so they protect the grate by taking up heat that may otherwise destroy the bars, and by the system of circulation through these tubes the boiler is kept clean and free from scale.

The Reagan water-circulating and shaking grate consists of a series of two-inch extra heavy pipes running parallel with length of boiler, and are screwed with right and left-hand threads into "water boxes." These boxes perform the same office as an ordinary return bend; through these the water passes from one pipe to the next, making the whole a continuous coil.

As these water boxes are separate from each other, and the pipes from one connect with two at the opposite end, freedom is provided for the variable expansion consequent upon different temperatures. If one pipe were hot and the next cold, there would, it is explained, be no strain upon any part. As a result these pipes never get out of shape. The pipes used in these grates are tested by the manufacturers to 1600 pounds pressure per square inch; the water boxes are of best homogeneous cast iron, three-quarters-inch thick, all internal corners rounded. After pipes are screwed in place the whole is tested with 400 pounds water pressure, and every grate when filled to this pressure must stand thirteen hours without loss. If gage should show a loss of over fifty pounds in that time, the work is gone over and the whole made absolutely tight.

The water tubes are supported at the centre by a "bridge bar," having toothed projections which prevent loss of coal between the front and back set of choppers, and at the same time admits air freely to centre of fire. In practice coal burns more rapidly near the bridge wall, and to meet

this condition the choppers are arranged in two sets, one lever shaking the front and the other the back of fire. In Fig. 1 is shown a view of the stationary grate complete with all connections, including blow-off pipe. Fig. 2 is a view of the stationary grate ready to go under boiler. This grate will burn all kinds of coal, and as well rice, sugar cane, sawdust and shavings.

R is the feed pipe; O is where water enters grate from the feed pipe R; M is a valve to shut off when blowing surface blow; L is a reversed check which closes when feeding and supplies the grate with water; J and K are connections which go through the boiler front and connect to bottom of boiler; G is where the feed water comes out of the grate on its way to boiler; E a valve to be shut when blowing from the bottom; A is where water is delivered into boiler, through an inside pipe, nine feet in length; B, C and D an air check which allows the air to escape from the grate when building a fresh fire; H a pipe to allow the dripping water to run into ash-pit; P a blow off from the top and bottom of boiler including the grate.

One lever shakes the front half, and the other lever the back half of grate. There are stops on these levers, allowing the fire to be shaken little or much as desired. When you start to feed at R the check L shuts and prevents the water from going into the bottom of boiler at J; the water passes to O and enters the grate, running through one bar and then another, coming out at G; it then passes up the pipe to A, and enters the boiler at the top under the water line through an inside pipe, which carries the water and delivers it at about the middle of the boiler. The moment feeding is stopped the check L is opened by the pressure from boiler, and the water from the bottom of boiler takes the place of the feed, so that, whether feeding boiler or not, water is in constant circulation through grate. To blow the grate open P and shut M; this gives a surface blow from

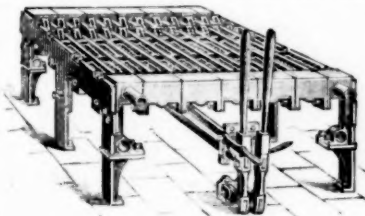


FIG. 2.

the top of boiler, passing through the grate, keeping it clean of all sediment; as soon as the surface blow is used enough let P remain open and open M; now you are blowing top and bottom at the same time; the bottom one is sucking the mud from bottom of boiler; shut P and circulation commences at once. M and E are the two main lines of circulation from grate to boiler.

An interesting pamphlet is issued by the Water Circulating Grate Co., 1026 Filbert street, Philadelphia, Pa., who manufacture this grate.

Iron Markets.

CINCINNATI, November 16.

Notwithstanding the furnaces are producing the largest quantity of pig iron ever made in the United States, stocks are not accumulating. Old and current orders are still taking up the extraordinary output comfortably. It remains to be seen whether this can continue.

There are evidences of weakness in steel and manufactured iron, but there is yet no real cause for shrinkage in values beyond a desire to keep running full and to dispose of material as produced.

The heavy buying through the summer months precluded the possibility of a continuance of such a phenomenal trade unless a general business boom should be on, which has not developed. The unwillingness of American manufacturers to conser-

vatively pile the product and await legitimate demand will probably tend to temporarily weaken the market and reduce prices all around.

The Southern ironmakers' order-books are still so well filled, they are in a stronger position for the moment than the makers of other districts.

Collections are not so good as they have been. It is feared that many concerns that have paid the advances for new materials have not secured a corresponding increase in prices on their manufactured articles, entailing a loss they can ill afford, as margins have been narrow enough on the old cost basis.

The business of the past week has been fairly good in volume. The orders have been in the main car lots and small lots for immediate requirements, though several 500, 600 and 1000-ton lots have been entered. The market closes somewhat disturbed, but the figures below may be quoted as price current.

We quote cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry.....	\$13 00@13 00
Southern coke No. 2 foundry.....	12 75@12 75
No. 1 soft.....	13 00@13 00
Lake Superior coke No. 1.....	14 50@14 50
Lake Superior coke No. 2.....	14 00@14 00
Hanging Rock charcoal No. 1.....	10 00@10 00
Tennessee charcoal No. 1.....	14 00@14 00
Jackson county silvery No. 1.....	14 00@14 00
Southern coke, gray forge.....	12 50@12 50
Southern coke, mottled.....	12 25@12 25
Standard Alabama car-wheel.....	15 75@15 75
Tennessee car-wheel.....	14 50@14 50
Lake Superior car-wheel and malleable.....	15 50@15 50

ST. LOUIS, November 16.

Interest in the local market has centred in the contract recently closed for a number of large manufacturing buildings, one contract requiring 10,000 tons iron and steel. These contracts will give employment to the architectural-iron works in St. Louis for months to come.

It is reported the Illinois Central placed an order for 1000 freight cars this week, dividing the order among several car works. The reports of business all over the country are encouraging. The pig-iron markets should be well sustained, and buyers who are looking for a general lowering in prices before the close of the year are in a fair way to be disappointed.

We quote for cash f. o. b. St. Louis:

Southern coke No. 1.....	\$13 50@13 75
Southern coke No. 2.....	13 25@13 50
Southern coke No. 3.....	13 00@13 25
Southern gray forge.....	13 00@13 25
Southern charcoal No. 1.....	14 50@15 00
Ohio softeners.....	15 00@17 00
Lake Superior car-wheel.....	10 00@17 50
Southern car-wheel.....	16 50@17 00
Genuine Connellsville coke.....	5 45
West Virginia coke.....	5 00

CHICAGO, November 16.

The waiting policy on the part of buyers is still in force, although more buying has been done during the past week than for some time previous. Some of the recent purchases have been to cover actual needs, and again buyers have taken advantage of speculative lots offered at something below full market price.

We hear that Lake Superior ore producers have reached an understanding, and the situation with them is one of strength. This, if true, means higher-priced ores for the next year.

We hear of more contracts having been placed, and large purchases of pig iron and other material have, to our knowledge, been made to cover by the car makers, and further heavy inquiries are pending.

There has been no change in prices.

We quote for cash f. o. b. Chicago:

Lake Superior coke No. 1 foundry.....	\$15 00@15 50
"No. 2.....	14 00@14 50
Lake Superior charcoal Nos. 1 to 6.....	16 00@16 00
Ohio Scotch No. 1.....	16 00@16 50
Jackson county, Ohio, silvery No. 1.....	15 50@16 00
Alabama silvery No. 1.....	15 00@15 50
Spathite.....	14 50@15 00
Southern coke No. 1.....	14 25@14 50
"No. 2.....	14 00@14 25
"No. 3.....	13 00@13 00

We quote for cash delivered Boston:

Alabama No. 1 foundry.....	\$14 50@14 75
Alabama No. 2 foundry and No. 1 soft.....	14 25@14 50
Alabama No. 3 foundry and No. 2 soft.....	14 00@14 25
Alabama No. C. C. car-wheel.....	18 00@18 50
Strong L. S. coke iron No. 1 foundry.....	17 00@17 25
Lake Superior charcoal car-wheel.....	17 75@18 00
American-Scotch (Northern) No. 1.....	17 00@17 25
Jackson county silvery No. 1.....	17 50@18 00

NEW YORK, November 16.

Sentiment changes over night in New

York. After six weeks of pessimism a marked change is noticeable in the closing days of the week. It will be in order now to contemplate the bright side for awhile, the features of which are continued heavy railroad earnings, well sustained general business, full employment of money, etc. There have been, however, few transactions in pig iron of importance. One large buyer covered a portion of his requirements for 1896. The Pennsylvania furnaces took the business. Prices of Pennsylvania irons now rule about \$1 per ton less at New York and nearby points than Southern irons. The Mahoning and Shenango valley reports are still favorable as to a large melt, but most consumers are pretty well covered for their wants and are not in a buying mood. It is not expected that this attitude will change during 1895. The iron that is pressing most at the present time is the product of the newly-blown in furnaces. Older stacks, for the most part, are heavily sold ahead and not seeking orders.

We quote for cash f. o. b. docks New York:

No. 1 X standard Southern.....	\$14 00@14 25
No. 1 X choice Virginia, such as Shenandoah.....	14 00@14 25
No. 2 X Alabama or Virginia.....	13 50@13 75
No. 1 soft Alabama or Virginia.....	13 75@14 00
No. 1 X lake ore coke iron.....	16 25@16 50
No. 2 X lake ore coke iron.....	15 75@16 00
Lake Superior charcoal.....	17 00@17 25

ROGERS, BROWN & CO.

Literary Notes.

THE November number of the Commercial Travelers' Home Magazine, published at Binghamton, N. Y., has several features of special Southern interest. One is an article on "Millionaire Hobbies," by Mr. D. Allen Willey, in which the Vanderbilt palace at Asheville, Mr. C. P. Huntington's development of Newport News, and the work of H. B. Plant and H. M. Flagler, in Florida, are referred to. The magazine contains several interesting stories and a sketch of the Atlanta Exposition. It is profusely illustrated, and, as a publication of much merit, reflects credit upon its editor, Mr. William Mill Butler.

MARY E. WILKINS has done something new in the piece of work just completed and given by her to the Ladies' Home Journal for publication. It is a series of "Neighborhood Types." These "types" are the most unique characters, and are found in a supposed New England village. To the portrayal of each "type" Miss Wilkins devotes a separate sketch. Thus she pictures a striking male character in "The Wise Man of the Village;" one of the most natural of children in "The Village Runaway;" a familiar figure in "The Neat Woman of the Town," with three other characters equally distinct. There are six "types" and all are illustrated.

THE Fowler & Wells Company, of New York, which makes a specialty of publishing works relative to phrenology and kindred subjects, has recently issued a book entitled "How to Study Strangers by Temperament, Face and Head." Even to those who are skeptical regarding phrenology, the work will be of considerable interest. It gives the reasons in detail, from the standpoint of Mr. Nelson Sizer, the author, for his theories, and contains illustrations upon most of its pages which fully cover the subject. Many prominent personages, including former presidents of the United States, eminent lawyers, railroad officials, business men, criminals and, in fact, notable people in all classes of life are selected to illustrate different types of character, and sketches of their lives are given to prove what the author has claimed as to their disposition, etc.

Two steamboats are now being completed at Knoxville, Tenn., for service on the Tennessee and tributary rivers.

There has been but little change in the general lumber market of this section during the past week, and the demand has been light. The export trade, however, is taking on new life, and some good orders have been filed, and a number of inquiries are out for large bills. The demand for yard stock from points within the State has been quite limited in character, but from the Northwest there is a good demand coming. This section has done but little trade in lumber with the Northwest for the past two years, and manufacturers are encouraged at the prospect of a return of business, which will likely be of considerable proportions. The Journal, in its review of the lumber market, says: "The market has not improved during the past week, which means that, except for export, the demand has been very light. The movement of yard stock to Texas points has been so light as to amount to not over one-third the shipments of six weeks ago. There are but few timber bills in hand, except those that are being sawed for export, and tie orders are almost totally lacking." There is a fair demand for shingles, but nearly all the shipments are of green stock, there being scarcely any dry shingles in the cypress country. The Export Lumber Co. is now loading the schooners A. Denike and the Mary, the former with 500,000 feet of lumber for South America and the latter with 350,000 feet for Mexico. The Reliance Lumber Co. is massing material at the Pass for cargoes for the schooners Mary Sanford and the Viva, which are due to load for South America. The Long Manufacturing Co. made its first shipment of hand-sawed cypress yesterday. It was clear selected stock. Orders for sash and doors and general factory work are coming in quite freely. Both the Reliance sash, door and fixture department and the firm of C. W. George & Co., recently established here, report the receipt of good orders. At Orange the market is moderately active, with a limited demand. There is some inquiry for railroad material, and a few orders have been filed during the week. Orders from out of town are lighter than for some time

past, but holders are firm in their views and adhere closely to the list of values. The Galveston News, in reviewing the yellow-pine market, says: "A feature that sustains yellow pine is the firmness of its friends and an abiding faith in its future. The consumption of today is only a tithe of the coming demand that its better acquaintance will bring about." The three-masted schooner J. M. McInnis from Corpus Christi was towed up to the D. R. Wingate Lumber Co.'s wharf on Thursday last, where she is taking on cross-ties, and expects to sail on Monday. She is consigned to the Mexican National Railway.

St. Louis.

[From our own Correspondent.]

ST. LOUIS, MO., November 16.

The lumber market at present is in a very satisfactory condition, and in every department the volume of trade is liberal. In the yellow-pine trade orders are not as numerous as they were a month ago, but the fall trade has been highly satisfactory. Prices are generally firm and well maintained, while stocks in some cases at the mills are badly broken. In flooring, finishing and No. 1 dimension there is a light supply, and orders for these grades are difficult to fill. A meeting of the board of directors of the Arkansas & Missouri Yellow Pine Co. was held in this city last Tuesday, at which various interesting matters relating to the trade were discussed. The recent action of the Missouri Pacific Railroad in adding a rate of three cents per 100 pounds on all cars containing moldings, frames and casing was discussed, and it was resolved that a committee of three be appointed to confer with officials of that road in an endeavor to get the old rate restored or the new rate modified. The trade in white pine has ruled fairly active, with orders coming in regularly and of fair volume. The demand from out of town is quite liberal, while the city trade is very satisfactory. The volume of trade in hardwoods is well maintained, and from the present demand it is thought that business will continue good fully as late as last year. The inquiry consists mostly for wagon, furniture, chair and implement stock, with a good demand for car and railroad material. There is a steady demand for oak, and for all dry stock prices are firm, with a hardening tendency. There are no very heavy stocks at the mills in either plain or quartered white oak. Stocks of dry poplar are light, and this material is moving freely. There is a good cottonwood trade in progress, and dry stocks at the mills are generally light. There is a light demand for ash, and implement and other industrial plants are reducing their stocks preparatory to stock-taking. The committee appointed by the Lumbermen's Exchange to revise the inspection rules of this market has completed its labors, and a report will be made at a meeting of the exchange called for November 29.

Lumber Notes.

THE British steamship Hunciliffe cleared from Mobile last week for Liverpool, having among her cargo 19,871 pieces of pitch-pine lumber and 6000 staves.

HETH CAMPBELL, general manager of the Builders' Supply Co., of St. Augustine, Fla., states that his company will remove its saw mill from Woodland to that city, and will begin operations about December 1.

MR. E. L. DAYTON, a prominent real-estate dealer from Poughkeepsie, N. Y., visited Ocala, Fla., last week and sold 3000 acres of pine lands in Suwannee county to Mr. Charles N. Hildreth, of Live Oak, Fla.

THE secretary of the Mechanics, Dealers and Lumbermen's Exchange at New Orleans reports the receipts of lumber for the week ending November 14 at 2,001,000 feet, against 29,875,500 feet for the season, against 21,386,266 feet last season. The receipts of shingles for the week were 528,-

000, and laths 30,000, oak staves 48,000 and cypress staves 66,000.

V. J. HERLONG, president of the Gainesville & Gulf Railroad, has purchased the large Seymour Saw Mill at Cedar Keys, Fla. He will commence sawing material to be used in the manufacture of lead pencils.

THE lumber drying kiln and about 130,000 feet of lumber, owned by McD. Cains, Jr., of Cordele, Ga., was destroyed by fire on the 12th inst. The loss is estimated at about \$7500, with insurance \$3500 to \$4000. Mr. Cains will rebuild at once.

MESSRS. VINZANT & FUTCH, of High Springs, Fla., are erecting a furniture factory 45x85 feet. The work on the building will be pushed rapidly to completion. All kinds of furniture, doors and moldings will be manufactured.

THE Meridian Sash and Blind Factory, at Meridian, Miss., one of the largest of its kind in the South, was burned on the 16th inst. A large quantity of lumber was also destroyed. The loss is estimated at \$100,000, with insurance \$21,000.

THE Wytheville Planing Mills, at Wytheville, Va., were sold at public auction on the 16th inst. for \$5125 to Messrs. J. R. Hudson, of Max Meadows, and John B. Hurt, of Wytheville. It is probable the plant will remain and go into operation shortly.

A MEETING was held in Fernandina, Fla., last week for the purpose of sending the Paul Lumber Co., of La Crosse, Wis., a formal proposition in order to have it locate its saw mill in Fernandina. The proposition offers the company strong inducements to locate in that city.

MR. GEO. W. ROBINSON, of the Pascagoula Lumber Co., chairman of the committee appointed at the recent meeting in Mobile of the manufacturers of lumber and timber for export, has postponed the meeting of the committee appointed for Pensacola from the 19th to the 26th inst.

THE following vessels cleared from Brunswick on the 15th inst.: Steamship Inishowen Head for Liverpool with 189,000 feet of hardwoods among her cargo, barkentine Antigua for Rio Janeiro with 617,000 feet of lumber, and schooner Florence Creadick with 475,000 feet of lumber.

COL. H. L. MORRIS, of Morriston, who has been operating a large turpentine farm near Williston, Fla., has sold his interest to a Georgia company. The new company has commenced boxing timber just west of Williston. It has leased large tracts of heavily timbered lands, and has a fine field for operating in.

GOOD progress is being made on the Fredericksburg hardwood finishing factory, now being erected at Fredericksburg, Va., by New York and home capital. It is said this is one of three establishments of the same kind in the United States. The product of the factories is in great demand for inside finishing of fine residences.

THE Nebraska Lumber Co., of Tyler county, Texas, has bought the track iron formerly used at Summit Mills, and are shipping it to Doucette, six miles from Colmesneil, where the Nebraska Company is putting in a steam tram line three or four miles long. The company is now getting its logs over its new tramroad.

THE schooners S. B. Hubbard and Mary L. Crosby sailed from Fernandina on the 12th inst. The former took 325,000 feet of lumber for New Haven, Conn., and the latter 400,000 feet for the same port. Messrs. N. B. Borden & Co., of Fernandina, have chartered the schooner New York Herald to take a cargo of yellow-pine lumber to Las Palmas, Grand Canary. The Herald will carry about 400,000 feet.

ADVICES from Seattle, Wash., state that the largest lumber combine ever made will on January 1 begin to control the trade of

the Pacific coast. It is the Central Lumber Co., of San Francisco, the successor to the old Pacific Pine Lumber Co., and it represents a capital of at least \$45,000,000. It includes every mill of importance in the region west of the Cascade mountains, from San Francisco on the south to Vancouver, British Columbia, on the north.

MESSRS. C. BENJAMIN, E. J. Benjamin, W. D. Newberry, J. C. Garner and A. W. Chambliss, of Chattanooga, Tenn., made application last week for a charter for the Benjamin Manufacturing Company. The capital stock has not yet been fixed, but will be decided when the charter is returned from Nashville. This is the organization of a concern that has been manufacturing butter dishes for several years, but the new corporation will enlarge the old plant and add berry and fruit baskets to their output.

THE Louisiana Cypress Association met in monthly session last week in New Orleans, President Bowie presiding. There were in attendance not only representatives of most of the Louisiana firms dealing in cypress, but a large contingent of visitors from the North and East. The question of supply and demand was freely discussed. It was decided that while there was by no means a surplus of cypress on the market, it would be better not to raise the prices, and it was determined that prices remain as they are until the next meeting at least. Other business of some importance was disposed of, but it was not made public.

The Government Must Build It.

THE Nicaragua Canal question is now commanding the attention of the Northern press, and we are glad to note the fact that nearly all the leading papers of that section of the country favor the building of the canal with as little delay as possible, but they are opposed to the work being done by, or the government guaranteeing the bonds of, the present canal company. The Boston Herald has this to say of the bill introduced in the last Congress authorizing the government to guarantee the bonds of the Nicaragua Canal Co.:

"This proposition is one to which we thoroughly dissent, believing, as we do, that the American people in their public capacity will suffer severely if they simply go in to bolster up a practically insolvent corporation. We have no wish to do injustice to anyone. If the Nicaragua Canal Co. has assets that are of any value to the United States government, they should be purchased at their full worth. This is something that the commission that has recently been in Nicaragua could determine with a tolerable amount of accuracy, and we should not find ground for objection if in a settlement of this kind the government paid somewhat more than the appraisers considered the real worth of the corporate property. But having done this, and having possessed itself of the franchises, privileges, concessions and material of the canal company, the work of canal construction should be carried on by the government itself as a distinct public work, in which individuals and companies had no more share than in the construction of a fort or the purchase and laying out of a navy yard."

The editorials of all the other Northern newspapers are written on the same line, and they, like the Herald, declare that the canal should be constructed and controlled by the United States government. A bill providing for the purchase of the franchises and assets of the Nicaragua Canal Co. has already been prepared, and it is safe to say that it will be passed by Congress at its next session, because enough of the report of the commission sent to Nicaragua has been made public to show that the engineers will favor the canal and urge the construction of it by the government.

A determined effort has been made to throw cold water on the canal project, be-

cause the engineers estimate that the work will cost \$150,000,000 instead of \$100,000,000, but the Philadelphia Times very truly says: "Even under such circumstances the work is one which the government could well afford to undertake in view of the general commercial benefit that would result from such an improvement and the sentimental confidence that would thereby be secured."

With the press of the North, South, East and West almost a unit in support of the great canal enterprise, there is no reason to fear that the transcontinental railway corporations will be able to organize a lobby at Washington powerful enough to defeat the canal bill.—New Orleans States.

TRADE NOTES.

MR. W. L. WILSON, general Southern agent for the Akron Belting Co., and acting for the Fall River Machine Co., of Cuyahoga Falls, Ohio, says the latter company has sold a full equipment of shafting and pulleys to nine new cotton factories in the South.

Two 48-inch three-ply electric leather belts for the Hudson Electric Light Co., Hoboken, N. J.; a 48-inch double leather belt for the Jersey City Electric Light Co., Jersey City, N. J.; 40-inch three-ply leather belt for the L. C. Porter Milling Co., Winona, Minn., and two orders aggregating 400 feet of belting for the island of Cuba is the handsome showing of orders lately received by Chas. A. Schieren & Co., New York city, manufacturers of oak bark tanned leather belting.

THE Hausburg watchman's clock system, which has lately been installed in the American Surety Building with a 40-station plant, is rapidly extending its popularity. A 16 station plant was recently put in the New York clearing house. The many safeguards which this system possesses and its other strong points, readily apparent upon inspection, are securing recognition in the shape of orders for equipping important buildings all over the country. E. O. Hausburg, 41 Maiden Lane, New York city, is the manufacturer.

AN important industrial establishment will be in full running order at Birmingham, Ala., January 1. It is the reorganized Birmingham Engine Works, now known as the Hardie Tynes Foundry & Machine Co. This concern will manufacture engines, sugar-house and mining machinery, saw mills and corn and feed mills. It will also carry a complete stock of mill and mining supplies. An addition to its buildings, 100x250 feet, is in course of erection, and will be equipped with new and improved tools. The present machine shop is 50x100 feet, and the foundry is 50x175 feet.

SOME marvelous products in castings are shown from a new process composition made by the H. H. Franklin Manufacturing Co., Syracuse, N. Y. In beauty and accuracy of finish these castings show surprising perfection. They are made in white composition, of which aluminum is a part. For light work they are claimed to possess advantages over brass, and in many cases iron castings. We have received samples of difficult parts, casted accurately and to size, with holes, taps, etc., ready for assembling. The utility of these castings in the manufacture of novelties and patented articles should soon bring them into general use.

IN the case of the Sawyer Spindle Co. et al. vs. Taylor et al., a decision has been rendered in favor of the plaintiff by the Circuit Court of the United States, District of New Jersey. This suit is the last of five brought by the Sawyer Spindle Co. against infringers of patent to John E. Atwood, No. 253,572 dated February 14, 1881, for support for spindles for spinning machines. This is one of the foundation patents on high-speed spindles, and its claims have, it is said, been upheld by the courts in every suit in which it has entered. The Sawyer Spindle Co., by this recent decision, is strengthened in its position, as this patent will not expire until 1899.

As a preventative against the spread of a fire, the utility of the automatic sprinkler system is rapidly extending the application of this equipment. Many instances can be cited where fires have been quenched in their incipency, and disastrous conflagrations, with the attendant losses, including a shut-down in a busy season, have been prevented. The non-corrosive sprinkler equipment made by the manufacturers, Automatic Sprinkler Co., 136 Liberty street, New York city, is receiving wide approval. A recent letter to the company from Fischer & Klaus, Buffalo, N. Y., said: "We had a fire at our mill last night in the boiler room and kiln building, which only damaged our property about \$25 or \$300. Your sprinklers did excellent work, and undoubtedly prevented a large loss. This fire gave the system a good test, and we are well pleased with the very prompt work it did."

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under the head of "Machinery Wanted."

†In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

THE proposed mill, noticed last week as to be built in the South, has not been located yet. Mr. David Trainer, of Fort Mill, S. C., represents the interested parties, and states that the company will be capitalized at \$1,000,000, and equip a plant of 30,000 spindles and 1000 looms.

ALABAMA.

Alabama City—Furniture Factory.—S. B. Foster contemplates erecting furniture factory, and is looking for location.

Anniston—Car Works.—The United States Car Co. is about to repair and improve its rolling mill, overhaul the car works, and put the entire plant in operation.

Birmingham—Engine Works.—The Birmingham Engine Works is building an addition, 100x250 feet, to contain new and improved machinery, etc.

Birmingham—Pipe Works.—H. T. Beggs and associates have formed the Birmingham Soil Pipe Co. and leased site for a plant; the machinery will be removed from the Bessemer pipe plant to Birmingham.

Dothan—Guano Factory.—Thrasher & O'Neal are building a guano factory.

Dothan—Water Works.—W. C. & B. R. Pilcher will construct a system of water works.*

Gurley—Artesian Well.—The city proposes sinking an artesian well; address the mayor.

New Decatur—Chair Factory.—James Good, of Indianapolis, and E. L. Brown, of Martinsville, Ind., have purchased, will enlarge and operate the chair factory of J. S. Richardson at New Decatur.

Selma—Ice Plant.—A \$20,000 ice and cold-storage plant will be built.

ARKANSAS.

Little Rock—Improvement Company.—The Cook Improvement Co., to buy and sell real estate, make contracts for building, etc., has been incorporated with a capital of \$25,000 by M. D. L. Cook, president; G. A. Cook, vice-president, and E. V. Cook, secretary and treasurer.

Van Buren—Ice Plant.—D. J. Young, of Fort Smith, will erect an ice and cold-storage plant.

Van Buren—Factories.—Propositions have been made for the erection of a wire fencing factory and a woodworking factory, both to cost \$50,000. Alvis Smith is on committee in charge.

FLORIDA.

Albion—Phosphate Mines.—The Camp Phosphate Mining Co. is putting new machinery in its mines.

Cedar Keys—Saw Mill.—V. J. Herliag has purchased the Seymour Saw Mill, and will cut wood for lead pencils.

Gainesville—Saw Mill, etc.—H. J. Sterling, of Michigan, will erect saw mill and furniture factory in Gainesville.

Miami—Saw Mill.—B. W. Johnston will erect a saw mill.

Middleburg—Phosphate Mines.—The Black River Phosphate Co. is overhauling its plant, preparatory to resuming mining.

Pensacola—Butter Factory.—J. M. Garrison, of Chicago, Ill., has purchased 2000 acres of land near Pensacola for \$20,000. He will place 100 head of Holstein cattle on the land and engage in butter manufacturing on a large scale.

Rock Springs—Phosphate Mines.—B. Arentz, J. V. Burke and Edward Hiller recently bought the Alachua and Piedmont mines, and are now preparing to resume mining.

St. Augustine—Water Works.—The water-works committee talks of issuing bonds for water works.

Tampa—Soap Factory.—I. Stewart Davies, of 414 East Eighth street, Michigan City, Ind., will erect a soap factory in Tampa, to operate as the Tampa Soap Co.*

Williston—Turpentine Still.—H. L. Morris, of Morriston, will erect a turpentine still.

GEORGIA.

Athens—Bobbin Mill.—L. F. Edwards and associates have purchased the Alpha Mills property and will put in machinery for manufacturing bobbins at once; will also endeavor to arrange for a cotton mill. The Secretary of new Alpha Mills is L. F. Edwards.*

Augusta—Cotton Mill.—The Warwick Mills is enlarging its building to accommodate 1700 additional spindles and 150 looms.

Cordele—Dry-kiln.—McD. Cain will rebuild his dry-kiln.

Savannah—Car Works.—The Huntingdon (Pa.) Car and Wheel Works has been purchased by W. A. Byrne, of Savannah, representing Southern capitalists. Part of the plant will be removed to Savannah and put in operation manufacturing freight cars.

KENTUCKY.

Georgetown—Electric and Ice Plant.—W. Z. Thomson and associates will erect street railway electric-power plant, put in 15 ton ice plant, etc.*

Louisville—Worsted Mills.—Chas. F. Murphy & Co., of 26 Chauncy street, Boston, Mass., has bought the Louisville Worsted Mills.

Winchester—Telephone Company.—C. F. Klein, Jas. W. Chambers and J. W. McDonald have organized the Globe Telephone Co. to construct a system.

LOUISIANA.

Abbeville—Bridge.—Contract let to the Pennsylvania Bridge Co., of Beaver Falls, Pa., at \$10,550 for construction of a steel bridge.

Crowley—Cigar Factory.—Freville & McElroy have started a cigar factory.

Jennings—Rice Mill.—J. F. Dunlap's rice mill is to have a capacity of 300 barrels; Engleburg hullers the only machinery purchased as yet.*

New Orleans—Electric-light Plant.—The New Orleans Edison Co. has been incorporated to generate electricity, etc., with a capital stock of \$3,000,000. Jos. P. Ord, Robt. T. Paine, Ronald T. McDonald and others are incorporators.

MARYLAND.

Baltimore—Land.—The People's Agency has been incorporated by Alfred Hughes, Gertrude Lussier, Elizabeth G. Myers, Peyton M. Hughes and Charles Lussier, capital stock \$20,000, to deal in lands.

Baltimore—Manufacturing.—The National Burial Co. has been incorporated by Eugene Cook, Robert Brooks, Gottlieb Frey, H. Fred Gauss, Peter G. Weikel and Reuben A. McCauley, with a capital stock of \$50,000, to manufacture undertakers' supplies.

Baltimore—Manufacturing.—The People's Supply Co. has been incorporated by Walter Vrooman, Hiram Vrooman, Arthur Pausch, Charles H. McAuliffe and Robert B. Golden, with a capital stock of \$1000, to manufacture all articles of general merchandise.

Mt. Savage—Brick Works.—The Mt. Savage Enamelled Brick Co., capital stock \$75,000, has been incorporated by Hugh A. McMullen and James Findlay, of Mt. Savage; Warren Delano, Jr., of New York, and John Sheridan, of Piedmont, W. Va. The company will manufacture enamelled brick porcelain bathtubs and every description of porcelain ware. Work will be commenced on the plant at once.

MISSISSIPPI.

Aberdeen—Electric-light Plant.—The city has let contract to the Thomson-Houston Company for lighting the city with 50 arc and 500 incandescent lights.

Aberdeen—Electric-light Plant.—Hoffman & Bell, of West Point, have contract to light the city; electric-light plant already built; has been leased.

Aberdeen—Cotton Mill.—Eastern capitalists propose building a \$200,000 cotton mill.

Canton—Electric-light and Water Works.—The city has voted for the erection of an electric light plant and the construction of water works. Address the mayor.*

Canton—Ice Plant.—The Canton Cotton Warehouse Co. will erect a 30 ton ice plant; water to be obtained from artesian well.

Meridian—Sash and Blind Factory.—The Meridian Sash and Blind Factory, destroyed by fire at a loss of \$90,000, will be rebuilt at once. The plant has large orders ahead, and gives employment to 150 people.*

MISSOURI.

Argentine—Refinery.—The Consolidated Smelting & Refining Co. will erect a copper-refining plant.

Canton—Drug Company.—Incorporated: The Canton Drug Co., capital \$3000, by John B. Kurtz, John J. Hawkins, Edward N. Cason and others.

Higginsville—Drug Company.—The Eell-Boyer Drug Co., capital \$2000, has been incorporated by Henry Boyer, Robt. L. Boyer and L. T. Bell.

Kansas City—Coal Mines.—The Pittsburg & Midway Coal Mining Co., capital \$200,000, has been incorporated by S. H. Lanegan, of Pittsburg, Kans.; T. A. and L. H. Bonebrake, of Topeka, Kans.; W. C. Endsley, of Kansas City, and others.

Kansas City—Hotel Company.—The Southwest Boulevard Hotel Co., capital \$2000, has been incorporated by Benjamin Harburg, Jas. G. Robinson and William Harburg.

Marceline—Water Works.—The city will construct water works. Address the mayor.

St. Charles—Water Works.—The construction of water works is contemplated.

St. Joseph—Pump Works.—The St. Joseph Pump Co. will rebuild its works recently burned.

St. Louis—Cycle Works.—Incorporated: The Tidd Fugg Cycle Co., capital stock \$5000, by A. H. Woods, Emil Hendrick, S. L. Rugg and R. M. B. Tidd.

St. Louis—Land Improvement.—Incorporated: The North St. Louis Land Improvement Co., capital \$25,000, by Wm. G. Clark, Jas. A. Sedden and J. R. Daugherty.

St. Louis—Rubber Works.—Incorporated: The Monarch Rubber Co., capital \$50,000, by Harry E. Wagoner, Geo. J. Kobusch, Louis Hoffman, Wm. E. Gill and Mark Hudson.

St. Louis—Carriage Works.—The Vogel & Moran Carriage & Wagon Co., capital stock \$6000, has been incorporated by G. F. Vogel, Wm. A. Moran and Patrick O'Toole.

St. Louis—Manufacturing.—The Dunham Manufacturing Co., capital \$100,000, has been incorporated by John S. Dunham, Richard F. Dunn and Harvey G. Dunham.

St. Louis—Machinery Company.—The Knox Machinery Co., capital stock \$10,000, has been incorporated by Wm. R. Knox, Alexander G. Gilliam and Benjamin Eckoldt.

St. Louis—Shirt Company.—The Wolff-Winkeler Shirt Co., of St. Louis, capital \$30,000, has been incorporated by Paul E. Wolff, Bernard Winkeler and Julius Wetzel.

St. Louis—Contracting Company.—The West End Building & Contracting Co., capital \$2000, has been incorporated by Clara Darr, William Kreher and George J. Darr.

St. Louis—Hanger Company.—The Safety Arc Lamp Hanger & Improvement Co., capital \$25,000, has been incorporated by John L. Zeidler, Francis L. Meyer, E. P. Snowden and others.

St. Louis—Mercantile.—The King-Brinsmade Mercantile Co., capital \$150,000, has been incorporated by D. H. King, Hobart Brinsmade, Harry B. King and B. G. Glover.

St. Louis—Stone Company.—The Peter Holscher Cut Stone & Construction Co., capital \$5000, has been incorporated by Peter Holscher, Isabella E. Roome, James Carey and Louis H. Felgner.

Unionville—Water Works.—The city will construct water works. Address the mayor.

NORTH CAROLINA.

Allan—Broom Factory.—R. L. Belk will establish a broom factory.*

Charlotte—Crematory.—N. K. Stringfellow, of Findlay, Ohio, has contract to erect the city's new garbage crematory.

Durham—Grist Mill.—C. B. Grimes has put in a grist mill.

Fayetteville—Cotton Mill.—W. L. Holt's new mill, noted last week, is to have 10,000 spindles and 500 looms.

Wilson—Prizehouse.—Briggs & Fleming will erect a tobacco prizehouse.

SOUTH CAROLINA.

Fork Shoals—Cotton Mill.—J. R. Hill, of Greenville, S. C., has bought the Fork Shoals Cotton Mill, and will put the plant in operation.

Inman—Cotton Mill.—A cotton-mill company is being organized.

TENNESSEE.

Athens—Typewriter Factory.—A plant will be established for manufacturing a typewriter invented by R. J. Fisher, of Cleveland, Ohio. Machinery has been purchased.

Knoxville—Abattoir.—The Knoxville Butchers' Slaughtering Co. has been organized with Geo. Robinson, president.

Knoxville—Electric-light Plant.—The Tennessee Electric Lighting & Power Co. will improve its plant at an expenditure of \$20,000.

Memphis—Heating Company.—The Memphis Steam Heating Co. is being organized to supply steam heat to business houses.*

Memphis—Electric-light Plant.—Gaston's Hotel will install an electric-light plant.*

Nashville—Woodenware Factory.—C. C. Benjamin and others have incorporated the Benjamin Manufacturing Co. to manufacture wooden butter-dishes.

Springfield—Electric-light and Water Works.—The city council has appointed committees to ascertain cost of electric-light plant and water works.

TEXAS.

Alta Loma—Cannery.—The proposed canning company has been formally organized, and charter will be procured at once. Address G. H. Park.

Arlin—Broom Factory.—James Speier will establish a broom factory.

Austin—Drugs, etc.—Chartered: The Austin Drug & Stationery Co.; incorporators, Paul F. Thornton, J. J. Tobin and A. P. Woolridge; capital stock \$25,000.

Austin—Furniture Factory.—Harry Zier has started a furniture and lounge factory.

Belton—Brick Works.—Chartered: The Beamer-Lovett Brick Co., capital stock \$15,000, by W. F. Beamer, I. A. Lovett and W. H. Mays, for the purpose of manufacturing and selling brick, tile and other like building materials.

Dublin—Machine Shops.—Strong endeavors are being made by the citizens of Dublin to induce the Texas Central Railroad to build shops in Dublin. Chas. Hamilton, general manager, Waco, can be addressed.

Fort Worth.—The Live Oak Ranch Co., capital stock \$50,000, has been incorporated by A. S. Reed, D. P. Gray and LeRoy W. Reed, all of Texas. The purpose of this corporation is for the raising, buying and selling of cattle and all other live stock.

Fort Worth—Packing-house, etc.—Chartered: The Southern Cold Storage & Produce Co., capital stock \$50,000, by William M. McVeigh, John P. King and Robert A. McNolt, to operate and improve the Fort Worth packing-house, etc., lately noted as purchased.

Gainesville—Ice Plant.—A company will establish an ice plant. E. P. Bomar can be addressed.*

San Antonio—Cotton Mill.—A movement is afoot for a cotton mill and subscriptions are being solicited. The Business Men's Club has the project in charge.

San Antonio—Brick Works.—The Alamo Brick Co., capital stock \$50,000, has been incorporated by W. H. Hunt, O. P. Birmingham and Frank A. Aid for the purpose of manufacturing brick, tile, etc.

San Antonio—Horticultural.—The Laguna Madre Horticultural Co., capital stock \$10,000, has been incorporated by Charles W. Ogden, James Anderson, Sam M. Johnson and G. Stuart Simons.

San Antonio—Woodworking Plant.—Chartered: The Schulze Bros. Manufacturing Co., capital stock \$15,000, by Otto, Carl and Paul Schulze, to manufacture and sell all kinds of cabinet work, including office and bank fixtures.

Temple—Real Estate.—The Investment Company, capital stock \$30,000, has been incorporated by R. B. Stephens, George A. Nelson and J. M. Cheatham, for buying and selling real estate, etc.

Terrell—Electric-light Plant.—M. A. Joy has purchased and will enlarge the Terrell electric-light plant.

Weimar—Water Works.—The city has voted for the construction of water works, to cost \$6000, stand-pipe system. Address J. C. Kindred, mayor.*

Wolfe City—Oil Mill.—The Hunt County Oil Co., noted last week as incorporated, has purchased the Wolfe City Oil Mill. It has remodeled and repaired the plant, and put in new machinery, and expects to add more next year.

VIRGINIA.

Big Island—Paper Mill.—The Big Island Paper Mill, lately purchased by E. C. Westervelt, of South Bend, Ind., will be put in operation under the name of the South Bend Paper Co.; will also equip a machine shop for making repairs.

Franklin—Water Works.—J. P. Gay and J. R.

Knight have been appointed a committee to ascertain cost of water works.*

Fredericksburg—Electric-light Plant.—The city has let contract to the Rappahannock Electric Light & Power Co. for three years' lighting of the streets.

Fredericksburg—Cotton Mill.—J. B. Ficklen is said to have knowledge of a Massachusetts company that will remove a \$150,000 cotton mill to Fredericksburg if \$50,000 of bonds will be subscribed for.

Louisa County—Gold Mine.—B. F. Hill, 18 Wall street, New York, has leased the Walton gold mine in Louisa county, and is now developing same; works will be erected to treat the ores.

Pearisburg—Timber Lands.—The Mountain Lake Lumber Co. has sold to Street & Keep, of Chicago, 25,000 acres of white-pine timber lands.

Richmond—Stone Quarries, etc.—The Boscobel Crushing Co. has been incorporated with a capital stock of \$15,000 to quarry and crush stone; Chester Bertollett, president, and George W. Andrews of Richmond, general manager.

Richmond—Paper-box Factory.—N. V. Randolph will rebuild at once his big paper-box factory.

Richmond—Chemical Works.—Charter granted to the Polk Miller Drug & Chemical Co. to manufacture and sell drugs and chemicals; the capital stock is to be not more than \$10,000; Polk Miller, president; W. Withers Miller, vice-president, treasurer and secretary.

Richmond—Power Plant.—The Richmond Traction Co. has purchased site for its new plant.

Richmond—Telephone Plants.—The Mason Telephone Co.'s manufacturing plant has been sold to the Mason Maxwell Telephone Co., which was organized in Charleston, W. Va., and capitalized at \$100,000. Walter Somers Risely, of Camden, N. J., is president, and Lewis Ashman, formerly of the Home Company, Baltimore, is secretary and treasurer. The plant will be enlarged and run to its full capacity.

Roslyn—Brewery.—The Consumers' Brewing Co., of Washington, D. C., has awarded contract for the erection of its brewery to Charles Kaestner & Co., of Chicago; to have annual capacity of 10,000 barrels.

WEST VIRGINIA.

Cherry Run—Coal Mines.—Horace Resley, of Cumberland, Md., will develop coal mines.

Elkins—Water Works.—The city is about to issue \$25,000 in bonds to build its proposed water works.

Grafton—Iron Furnace, etc.—A dispatch says that the property of the Irondale furnace, F. Nemegey, proprietor, valued at \$150,000, has been turned over to Charles R. Durbin for the benefit of creditors. The property includes a blast furnace, coal mine, coke ovens and twenty miles of railroad.

Martinsburg—Mercantile.—The Evans-Shaffer Grocery Co., authorized capital \$50,000, has been incorporated by Joseph H. Shaffer, D. K. Shaffer, Geo. F. Evans, John W. Dean, Jas. F. Evans, D. W. Shaffer and G. W. Burton.

Sistersville—Telephone Franchise.—Kerr & McGhie have obtained telephone franchise.

Sistersville—Electric-light Plant.—Geo. H. Potter and associates are applying for electric-light franchise.

Wellsburg—Glass-decorating Works.—W. E. Deiters and W. W. Crowl, of Wheeling, and W. J. Ball will establish glass-decorating works.

Wheeling—Oil Wells.—The Stephens Oil Co., with a capital of \$400,000, has been incorporated by F. Riester and others.

Wheeling—Bridge.—The Bellaire & Benwood Bridge Co., lately noted, has elected J. H. Reed, of Pittsburgh, president; R. M. Gilleland, of Bellaire, Ohio, vice-president, and G. H. Vost, of Bellaire, secretary.

ALABAMA.

Abbott, Texas.—M. W. Lindsey's cotton gin.

Andersonville, Ga.—J. R. Williams's cotton gin.

Cordele, Ga.—McD. Cain's dry-kiln.

Fairford, Ala.—The Seaboard Mill Co.'s planing mill.

Fort Worth, Texas.—The Fort Worth Cracker Factory; loss \$50,000.

Hallettsville, Texas.—L. S. Pepper's hotel; loss \$7000.

Henrietta, N. C.—W. J. Ford's saw mill, gin and mill at Big Island.

Meridian, Miss.—The Meridian Sash and Blind Factory and the Citizens' Compress; loss \$50,000.

Richmond, Va.—The N. V. Randolph Paper Box Manufacturing Co.'s box factory; loss \$125,000.

Waynesville, N. C.—The Hardwood Manufacturing Co.'s plant; loss \$15,000.

BUILDING NOTES.

Algiers, La.—Courthouse.—A \$30,000 courthouse will doubtless be built. L. W. Brown, city engineer, of New Orleans, can be addressed.

Atlanta, Ga.—Depots.—The Seaboard Air Line will build the proposed new general depot at a cost of \$75,000 to \$100,000; R. C. Hoffman, of

Baltimore, president; E. St. John, Portsmouth, Va., vice-president, and W. R. Gwathmey, Portsmouth, chief engineer.

Baltimore, Md.—Dwellings.—W. H. Laughlin has permit to build twenty three two and three-story buildings, and Chas. E. Stack for six two story buildings.

Baltimore Md.—Apartments.—J. S. Ditch & Bros. will build a five story apartment-house next year.

Chattanooga, Tenn.—Hall.—A firemen's hall will be built; T. T. Wilson, chairman of committee.

Clearwater, Fla.—Office Building.—S. S. Coachman will erect an office building.

Cleburne, Texas—Hotel.—J. W. Porter is trying to organize a company to build a \$20,000 hotel.

Cumberland, Md.—Dwelling.—Hewitt Bros. have contract from T. F. S. to use to erect a dwelling; gas and electric lights, hot water, etc.

Gainesville, Fla.—Church.—The Baptists are raising funds for a \$6000 church; address the pastor.

Galveston, Texas—Courthouse.—The commissioners' court has ordered the erection of the proposed \$375,000 courthouse. Plans and specifications will be received until January 13.

Greensboro, N. C.—Depot.—The Southern Railway Co. (office, Washington, D. C.) will build a depot.

Greenville, Texas—Depot.—The Sherman, Shreveport & Southern Railroad will build a \$20,000 depot after plans already prepared; F. W. Fratt, general manager.

Jacksonville, Fla.—Church.—The erection of a Catholic church is proposed; Father Kenny can be addressed.

Knoxville, Tenn.—Reformatory.—The trustees of the Knox County Reformatory will erect new buildings.

Macon, Ga.—Synagogue.—The Temple Guild of Beth Israel proposes the erection of a \$35,000 synagogue.

Marlin, Texas—School.—The city will erect a school building to cost \$6000; address the mayor.

Morgantown, W. Va.—University.—A \$20,000 university hall will be built by the Episcopal Church. Address Bishop Peterkin.

Napoleonville, Ga.—Courthouse.—Bids will be opened December 10 for improvements and additions to the courthouse, according to plans; address W. W. Pugh, president police jury.

New Orleans, La.—Courthouse Jail, etc.—The Delta Construction Co. may build courthouse, jail and hotel on the Mississippi river at a new town site; A. W. Swantz, manager, 135 Carondelet street.

Richmond, Va.—Church.—Carl Reuhornund has prepared plans for a \$6000 structure for Market Street Presbyterian Church.

Tifton, Ga.—Bank Building.—Contract for the new bank building let to S. G. Slack.

Vernon, Fla.—Courthouse and Jail.—The county commissioners will consider levying a tax to build new courthouse and jail.

Washington, D. C.—School.—Pavari & Greer have contract at \$8350 to erect a school building.

Washington, D. C.—Dwelling.—M. H. Jones has plans for a \$15,000 residence for Richard J. Marshall.

Washington, D. C.—Churches.—Paul J. Pelz is preparing plans for a three story 35x47-foot church for the colored Swedenborgians; William J. Palmer is preparing plans for a church for the Dumbarton M. E. Church.

Washington, D. C.—Dwelling, etc.—Julia M. de Thonars has permit for \$2500 dwelling, and John R. McLean permit to remodel Gramery property at cost of \$15,000.

Winston, N. C.—Courthouse.—The county commissioners have definitely decided to build the proposed \$50,000 courthouse; plans not decided upon as yet.

RAILROAD CONSTRUCTION.

Steam Railways.

Alvin, Texas.—The promoters of the Alvin, Brazoria & Western road are to make a survey of the proposed line. Land for right of way is being donated.

Arkansas City, Ark.—J. W. Dickinson, of the Arkansas City & Gulf Company, informs the MANUFACTURERS' RECORD that it is to be built from Pendleton, on the Stuttgart & Arkansas River road, to Lake Village, in Chicot county, sixty miles distant. Bonds are to be issued, and work is expected to begin in a few weeks. M. W. Lewis, at St. Nicholas Hotel, St. Louis, may be addressed.

Baltimore, Md.—The Peninsular Construction Co. will issue \$1,440,000 to build the railroad line it is promoting from Queenstown, Md., to Lewes, Del. It is expected to complete the road from Queenstown to Denton by April 1, 1896. W. H. Bosley is president.

Belton, Texas.—The Elton & Northwestern Railway Co. has been authorized to issue \$12,000 worth of bonds per mile on twenty eight miles of railroad projected between Belton and Mac-

Gregor, Texas. George C. Pendleton and Silas Baggett are two directors of the company.

El Paso, Texas.—J. L. Bell, promoter of the El Paso & White Oaks road, has secured sixty days' time extension from the city council in which to begin work. He states that he will begin construction this year.

Hyattsville, Md.—Director Charles A. Wells, of the District of Columbia Railway Co., informs the MANUFACTURERS' RECORD that its road will be four miles long. Right of way has been secured, and work is expected to begin as soon as a charter is secured. The trolley system will be used.

Morehead, Ky.—The road to be built in Morgan county is the one projected by the Hixson-Rodbourn Lumber Co. It is to begin at Maysville, and will extend through Hillsboro, Pine Springs, Rodbourn and Elliottsville to West Liberty. The length will be sixty-eight miles, of which forty-six miles will be new road. It is to be called the Ohio River & Eastern Kentucky. Address the company at Rodbourn.

Pine Bluff, Ark.—The Pine Bluff & Western Railroad Co. has been incorporated to build the line surveyed from Pine Bluff to Malvern. The distance is forty-nine miles, and the capital \$500,000. The incorporators and directors are John O'Connell, A. Brewster, G. W. Shepherd, W. D. Hearn, of Pine Bluff; W. X. Fuller, L. A. Dodge, J. W. Realls, Jr., of Boston, and J. A. Gaylord, of New York.

Savannah, Ga.—It is reported that the Georgia & Alabama Railway Co. has purchased the rails for its extension to Savannah. Cecil Gabbett at Americus is general manager.

Timpson, Texas.—It is stated that work has begun on the railroad between Timpson and Carthage. The distance is twenty miles. T. S. Garrison, of the Timpson Lumber Co., is interested.

Washington, Ga.—Merchants of Washington are considering a plan to build a line from Washington to Elberton, to connect with the Seaboard Air Line. The distance is about thirty miles.

Electric Railways.

Baltimore, Md.—The Columbia & Maryland Electric Co. has awarded to Frank H. Sloan the contract for building two and one-quarter miles of its line from Baltimore suburbs into the city.

Frederick, Md.—President George W. Smith, of the Frederick & Middletown Electric Railway Co., advises the MANUFACTURERS' RECORD that bids for grading the line and for ties will be wanted about November 25. The road is to be about ten miles long.

Hyattsville, Md.—The District of Columbia Electric Railway Co., which is promoting a trolley line from the District line through Hyattsville, Eladensburg and Riverdale Park, will endeavor to secure permission from Congress to build in the District. Dr. C. A. Wells, of Hyattsville, is one of the company.

Portsmouth, Va.—Messrs. Siegfried and Finney, of Portsmouth, Pa., and Messrs. Himmelsberger, of Lebanon, Pa., are in Portsmouth preparing to perfect an organization to build the 12-mile trolley line.

St. Louis, Mo.—The Fourth & Arsenal Street Railroad Co. has been organized, and is about to let contracts for a trolley line. Charles Green is president, and Charles J. Maguire secretary.

Wilmington, N. C.—The Wilmington Street Railway Co. has decided to extend its line along several streets in the suburbs. M. F. Heiskell is superintendent.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belting, Pulleys, etc.—E. Dillingham, Daytona, Fla., will buy belting, pulleys and shafting.

Bobbin Machinery.—Machinery for manufacturing bobbins wanted at once by Alpha Mills, Athens, Ga.

Boiler.—The Carriere Lumber Co., Lacy, Miss., wants a good second hand sixty or eighty horse-power boiler.

Boiler.—The Big Stony Mining Co., care Jos. T. Engleby, Roanoke, Va., will need a sixty horse-power locomotive-type boiler.

Boiler and Engine.—J. F. Dunlap, Jennings, La., wants bids on sixty horse-power boiler and engine, second-hand.

Broom Factory.—R. L. Belk, Altan, N. C., wants to buy broom machinery.

Electric-light Plant.—Bids for electric-light plant will be wanted at Canton, Miss. Address the mayor.

Electric-light Plant.—Gaston's Hotel, Memphis, Tenn., is open for proposals on a 500-light electric plant, and invites bids on both systems, direct-connected engine and separate engine and dynamo.

Electric-light Plant.—Cooper Bros., Winchester, Va., want to correspond with manufacturers of electric light supplies, including dynamos, arc and incandescent lamps, etc.

Electric Railway and Power Plant.—W. Z. Thomson and associates, Georgetown, Ky., will contract for an electric power plant and other railway equipment.

Engine.—See "saw mill."

Engine.—The Woolsey Wheel Co., Sandusky, Ohio, wants a 150 horse-power engine, economical in steam, good order, etc.

Engine.—E. Dillingham, Daytona, Fla., will buy fifty horse-power engine and injector for fifty horse-power boiler.

Engine.—The Virginia Soapstone Co., Schuyler, Va., is in the market for a horizontal forty horse-power engine, self-contained, centre crank, speed about 150.

Engines.—See "railway equipment."

Glass.—A. S. White, 926 Lafayette street, New Orleans, La., wants addresses of manufacturers of skylight glass.

Ice Machine.—F. A. Esmer, Clinton, Mo., will buy a 20-ton ice machine.

Ice Plant.—W. Z. Thomson and associates, Georgetown, Ky., will contract for a 15-ton ice plant.

Ice Plant.—E. P. Momar, Gainesville, Texas, wants to correspond with builders of ice plants.

Ignition Tubes for Gas Engines.—The Charter Gas Engine Co., Sterling, Ill., wants to buy indestructible ignition tubes for gas and gasoline engines.

Molders' Sand.—The Asheville Supply & Foundry Co., Asheville, N. C., wants to buy molders' sand.

Perforated-metal Machinery.—A. S. White, 926 Lafayette street, New Orleans, La., wants a 30-inch squaring shear for working sheet metal No. 18 and lighter, a 30-inch adjustable bar folder for sheet metal working a 10½ inch bench shear, etc.

Pipe-threader.—The Trevor Manufacturing Co., Lockport, N. Y., wants a pipe threading machine for power to thread up to six inches in diameter, new or good second-hand.

Printing Press.—A. J. Godard, Abbeville, La., wants to buy second-hand job printing presses; would like to have press and outfit, but would buy press alone. When writing, give size of press and price.

Pulverizer, etc.—A. J. Strickland, Valdosta, Ga., will buy pulverizer, screen and conveyor.

Pump and Vise.—A small steam pump and a bench vise are wanted at 1820 East Eager street, Baltimore, Md.

Rails.—The Carriere Lumber Co., Lacy, Miss., wants one mile of 30 pound relaying rails.

Rails.—The Big Stony Mining Co., care Jos. T. Engleby, Roanoke, Va., will need second-hand 20 or 25 pound T rails.

Rails.—Hench & Dromgold, York, Pa., want forty or fifty tons of 20 pound second-hand T steel rails for relaying.

Railway Equipment (Electrical).—The Vicksburg Electric Transit & Light Co., Vicksburg, Miss., will contract for two 125 horse-power generators, two 150 horse-power high speed engines, five cars of 225 horse-power motors each.

Refrigerator Hardware, etc.—The Keyser Manufacturing Co., Chattanooga, Tenn., will want refrigerator hardware, galvanized iron, zinc, tinned nails, solder, water and acid proof paper, casters, galvanized woven wire, etc.

Rice Mill.—J. F. Dunlap, Jennings, La., will buy machinery for rice mill of 300 barrels, with exception of Engleburg hullers, already secured; will need roofing, pulleys, shafting, buckets, belting, engine, boiler, etc.

Sash and Blind Machinery.—The Meridian Sash and Blind Factory, Meridian, Miss., wants to buy \$30,000 worth of machinery for manufacturing sash and blinds. Address F. W. Williams, secretary.

Saw.—W. R. Church, Linwood, Ala., wants a band saw.

Saw Mill.—Jas. H. Hard, Bessemer, Ala., desires to purchase a second hand twenty-five to forty horse-power engine and saw mill.

Soap Machinery.—I. Stewart Davies, 414 East Eighth street, Michig N City, Ind., will want soap frames and cutting machine.

Spoke Lathe.—W. R. Church, Linwood, Ala., wants a spoke lathe.

Steam Heating.—The Memphis Steam Heating Co., Box 39, Memphis, Tenn., wants correspondence as to appliances for heating by steam.

Sugar Mill.—The Rose Hill Planting & Refining

Co., Limited, Abbeville, La., will contract for a large cane mill.

Telephone Outfit.—The Fort Valley Telephone Co., Fort Valley, Ga., will buy telephone outfit.

Vehicles.—J. W. Warnock, Enal, Ga., wants catalogues and lowest prices of all kind of vehicles, bicycles, wagons, etc.

Water Works.—J. P. Gay and J. R. Knight, committee, Franklin, Va., want estimates on standpipe, water pipe, pump, hose, fittings, etc.

Water Works.—Bids for water works will be wanted at Canton, Miss. Address the mayor.

Water Works.—The mayor, Weimar, Texas, will contract for water works, standpipe 100x13 feet, 3000 feet eight-inch mains, six hydrants, etc.

Water Works.—W. C. & B. R. Pilcher, Dothan, Ala., want 2000 feet of eight-inch water mains, 100,000 gallon standpipe and other equipment for small water system.

Water Works.—Sealed proposals will be opened December 16 for constructing a system of water works at Greenville, Miss., including two pumping engines of 1,250,000 gallons capacity daily, etc. For blank forms address Jno. M. Lee, city clerk.

Well-drilling.—Benj. Thompson, Greensboro, N. C., wants information about driven wells for large supply of water.

Woodworking Machinery.—The Farmers' Manufacturing Co., Norfolk Va., wants machinery to make square bread or chopping trays.

Woodworking Machinery.—E. Dillingham, Daytona, Fla., will buy four-side planer, six inch molder, two rip saws, two cut off saws, two buzz planers, shaper, boring machine, band saw, jig saw, resaw, two turning lathes, blower, drag saw, etc.

TRADE NOTES.

The well-drilling business at Atlanta, Ga., of the Southern Water Supply Co. is not affected by the recent death of Col. John W. Baum, the manager. This business will be continued by the Atlanta office of the Stilwell Pierce & Smith Vaile Co.

The South Bend Paper Co., of South Bend, Ind., which is putting in operation at Big Island, Va., a large paper and pulp mill, is fitting up a machine shop in which to do its own repairing. The tools and equipment for this shop have been ordered from the Lodge & Davis Machine Tool Co., of Cincinnati, Ohio.

The prize of \$150, which is offered by John Wedderburn & Co., 618 F Street N. W., Washington, D. C., for the best and simplest invention brought to their attention during each month, was awarded for the past thirty days to D. F. Cornell, Westfield, Pa. His patent was an improvement in lathe carriages.

ANNISTON, ALA., besides being called the "Model City," is also known as the Brooklyn of the South on account of its many handsome churches. The Peck-Smead Co., of Cincinnati, Ohio, has recently placed its heating apparatus in Grace Episcopal Church at Anniston, which is one of the most beautiful churches in this section.

As the direct results of the meritorious performance of one oil burning engine made by the Rochester Machine Tool Works, Rochester, N. Y., a number of other engines were sold in the same vicinity. This remarkable engine seems to be finding favor wherever introduced, and in the South the trade of the company is steadily growing.

A good record made by any product is the key note of enduring popularity. When an article steadily grows in favor the unmistakable fact will appear that merit is the chief promoter of this growth. An illustration of this is to be seen with "Akron" belting. It has an established reputation for excellency. This was achieved by a policy which the manufacturer is still pursuing. Its aim has been at all times to furnish the highest grade of goods that could be produced from leather. With this concern the production of belting has been an art, in which the pride of the management was to excel. The company keeps in touch with the user, studies his wants, and, as a rule, retains his patronage. Guaranteeing its goods for the most exacting service, any defect in either material or workmanship is remedied free of charge. The company seeks out cases where conditions are extremely hard on belting, and fills orders of this class with the desire of illustrating the wearing qualities of its product. This method of doing business is reflected in the volume that is handled by the Akron Belting Co., whose headquarters are at Akron, Ohio. The year 1893 is pointed to as the roughest year for general business ever encountered. In that year, however, this company's trade exceeded that of any previous year in a career of twelve years, not withstanding the good times enjoyed in 1892. Although the depression of 1894 was very nearly or quite as great as in 1893, its output was greater than any previous year. This year shows the same development. The output for 1895, up to October 1, exceeded the largest year's business by several thousand dollars.

TRADE LITERATURE.

IMPROVEMENTS of the original Webster vacuum system of steam heating are described in a pamphlet sent out by Warren Webster & Co., Camden, N. J. These improvements are designed primarily to produce a more perfect circulation of steam in the heaters employed of any type, to render the apparatus self controlling, to cheapen the cost of construction by enabling smaller mains and returns to be used, and to prevent waste of steam or water.

AN interesting chapter on steam-engine economy is contained in a catalogue sent out by the Frick Company, Waynesboro, Pa. It states the broad principles underlying the science of producing a given amount of motive power with the least expenditure of everything that enters into the cost of creating and maintaining it, showing the unique position occupied by the Corliss steam engine and why it is recognized as the embodiment of practical steam engine economy. The catalogue brings out the features peculiar to the Corliss engine, and a number of cuts illustrate its various characteristics and the different styles made by this concern. A series of tables is also an interesting feature.

TABLE OF CONTENTS.

EDITORIAL	Page.
Maryland at the Exposition.....	249
Some Errors About the South.....	249
Malice or Stupidity, Which?.....	249
Should Be Investigated.....	250
Chicago Opinion of the South.....	250
The Visit to Atlanta.....	250
The Canal from Baltimore to the Sea.....	250
Breaking Down the Barriers.....	251
Great Shipping Facilities.....	251
The Luray Caverns.....	252
Wants a Larger Dock.....	252
The Time to Build Railroads.....	252
RAILROAD NEWS:	
Industries Crippled by Freight Rates.....	252
B. & O. Annual Meeting.....	253
Seaboard Air Line Officers.....	253
New Depot for Atlanta.....	253
A Kentucky Line.....	253
New Tourist Route.....	253
A Commendable Interest.....	253
Railroad Display at Atlanta.....	253
Texas Rolling Stock.....	253
Richmond to Baltimore.....	253
To Enter New Orleans.....	253
A Good Showing.....	253
Improvements at Arkansas.....	253
Central Secures It.....	253
Scarcity of Coal Cars.....	253
To Preserve Fruit in Transit.....	253
Railroad Notes.....	253
Southern Capital in the North.....	254
FINANCIAL NEWS:	
Extending Its Business.....	254
A \$16,500,000 Bond Issue.....	254
American Securities Abroad.....	254
New Corporations.....	254
New Securities.....	254
Interest and Dividends.....	254
Financial Notes.....	254
The Tennessee Centennial.....	254
TEXTILES:	
A \$1,000,000 Mill.....	254
Textile Notes.....	254
Tennessee as a Coal Centre.....	254
COTTONSEED OIL:	
Couldn't Deliver His Goods.....	255
The Market for Cottonseed Products.....	255
Cottonseed-Oil Notes.....	255
PHOSPHATES:	
Phosphate Markets.....	255
Phosphate and Fertilizer Notes.....	255
To Assist the City.....	255
MECHANICAL:	
Ironclad Generators and Stationary Motors (Illus.).....	256
The Mason Improved Steam Pump (Illus.).....	256
Steam Production (Illus.).....	256
Iron Markets.....	257
Literary Notes.....	257
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	258
Charleston.....	258
Savannah.....	258
Jacksonville.....	258
Mobile.....	258
Beaumont.....	258
St. Louis.....	259
Lumber Notes.....	259
Trade Notes.....	259, 262
The Government Must Build It.....	259
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	260
Building Notes.....	261
Railroad Construction.....	261
Machinery Wanted.....	261
Trade Literature.....	262
ATLANTA EXPOSITION SUPPLEMENT:	
The South's Coal.....	i
A Just Criticism.....	iii
Exhibits at the Exposition.....	iii
World's Fair and the Exposition.....	iv

Sixty-Ninth Annual Report of the Baltimore & Ohio Railroad Co.

The Annual Meeting of the Stockholders of the Baltimore and Ohio Railroad Company was held yesterday at their office in the Central Building. Mr. Revery Johnson was called to the Chair. Mr. Andrew Anderson, the Secretary of the Company, acted as Secretary. President Mayer submitted the Sixty-ninth Annual Report, for the fiscal year ended June 30, 1895. The Secretary read the Report to the Meeting. It is as follows:

SIXTY-NINTH ANNUAL REPORT.

OFFICE OF THE BALTIMORE AND OHIO RAILROAD COMPANY, BALTIMORE, November 8, 1895.

To the Stockholders of the Baltimore and Ohio Railroad Company:

The President and Directors submit the following statement of the affairs of the Company for the year ended June 30, 1895.

The General Balance Sheet, the tabular statements of the General Auditor, and the report of the General Manager are appended.

OPERATIONS FOR THE YEAR GENERAL INCOME ACCOUNT.

EARNINGS.	Year Ended June 30, 1895.	Year Ended June 30, 1894.	This Year Increase.	Decrease.
From Freights.....	\$15,59,052 04	\$13,916,476 06	\$1,674,585 98	
Passengers.....	5,049,097 27	6,431,558 17	1,382,460 90	
Mail.....	716,003 05	699,620 20	16,382 85	
Express.....	611,737 80	674,971 39	63,233 59	
Miscellaneous.....	858,682 08	780,536 53	78,145 55	
Total Earnings.....	\$22,817,182 24	\$22,502,662 35	\$314,519 89	
OPERATING EXPENSES.				
General Expenses.....	\$1,644,083 96	\$1,732,394 08	\$88,310 12	
Conducting Transportation.....	9,217,011 19	9,104,139 12	112,872 07	
Maintenance of Equipment.....	2,092,716 03	2,052,105 51	40,610 52	
Maintenance of Way and Structures.....	2,846,232 71	2,672,050 36	174,182 35	
Total Expenses.....	\$15,801,043 89	\$15,560,689 07	\$240,354 82	
Net Earnings from the operations of the property. (See Table A).....	\$7,016,138 35	\$6,941,973 28	\$74,165 07	
Add Income from other sources. (See Table C).....	1,675,595 45	1,982,857 29	\$307,261 84	
Total.....	\$8,691,733 80	\$8,924,830 57	\$233,096 77	
Deduct Net Earnings from Washington Branch.....	174,409 62	205,000 66	30,591 04	
Available Income.....	\$8,497,324 18	\$8,719,829 91	\$222,505 73	
From which deduct Interest on Bonded Indebtedness, Rentals, Taxes and Other Charges. See Table D. For Terms of Leases, see Table I).....	6,759,643 18	6,522,581 13	\$237,062 05	
Balance.....	\$1,709,681 00	\$2,197,248 78	\$487,567 78	
PAYMENTS				
Dividend on First Preferred Stock, 6 per cent.....	\$180,000 00	\$180,000 00		
Dividend on Second Preferred Stock, 6 per cent.....	120,000 00	120,000 00		
Dividend on Common Stock.....		624,935 00	624,935 00	
Total.....	\$300,000 00	\$924,935 00		
Remainder.....	\$1,409,681 00	\$1,272,313 78	\$137,367 22	
From which payments have been made to retire Bonded Indebtedness, viz:				
Principal Car Trust Bonds.....	\$250,000 00	\$250,000 00		
Principal Equipment Trust Bonds, Series A.....	100,000 00	100,000 00		
Principal Equipment Trust Bonds, Series B.....	200,000 00	200,000 00		
Wheelage Car Trust Payments.....	113,666 21	99,288 74	\$14,377 47	
Payment to the City of Baltimore for the purchase of its interest in the Pittsburgh and Connellsville Railroad.....	40,000 00	40,000 00		
Cash Appropriations to Sinking Funds.....	58,057 81	58,057 81		
Somerset and Cambria Railroad Traffic Bonds.....	8,500 00	13,000 00	\$4,500 00	
Total.....	\$770,164 02	\$760,345 55	\$9,818 47	
Leaving a balance of.....	\$639,516 98	\$511,967 23	\$127,549 75	

GROSS EARNINGS, EXPENSES AND NET EARNINGS OF EACH DIVISION.

The following table shows the gross earnings, the expenses and the net earnings of the Main Line and Branches and each Division of the System for the year ended June 30, 1895, with comparison for the year ended June 30, 1894:

	Gross Earnings.		Expenses.		Net Earnings.	
	1895.	1894.	1895.	1894.	1895.	1894.
MAIN LINE, including Branches.....	\$10,806,337 16	\$10,685,629 26	\$6,664,230 05	\$6,577,921 68	\$4,142,107 08	\$4,107,707 58
PARKERSBURG BRANCH.....	731,121 00	751,400 69	563,704 27	578,116 21	167,416 73	173,284 43
WASHINGTON BRANCH.....	624,811 80	656,560 99	45,402 24	451,560 30	174,409 62	205,000 66
PHILADELPHIA DIVISION**	1,776,317 80	1,833,411 78	1,217,835 61	1,319,771 96	558,482 19	513,639 82
PITTSBURGH DIVISION***	3,015,726 85	2,662,333 44	2,094,585 37	1,893,021 14	921,141 48	769,312 30
WHEELING, PITTSBURGH AND BALTIMORE DIVISION.....	633,775 17	489,447 06	552,514 45	499,466 14	81,260 72	90,000 00
MIDLAND DIVISION.....	399,909 96	347,300 11	301,995 52	271,567 73	98,004 44	75,732 38
CENTRAL OHIO DIVISION.....	1,096,661 77	1,079,448 17	889,665 37	902,770 62	206,996 40	166,677 55
LAKE ERIE DIVISION.....	714,171 01	706,692 94	605,684 05	579,692 97	108,486 96	126,999 97
STRAITSVILLE DIVISION.....	124,571 89	99,623 32	125,584 92	112,078 15	1,493 74	12,441 83
CHICAGO DIVISION.....	2,500,744 59	2,870,546 53	1,995,864 04	2,055,348 22	504,880 55	815,198 31
AKRON DIVISION (including Wooster Branch).....	393,743 75	388,458 06	338,852 97	319,183 57	54,930 78	69,274 49
Totals.....	\$22,817,182 24	\$22,502,662 35	\$15,801,043 89	\$15,560,689 07	\$7,016,138 35	\$6,941,973 28

*The Main Line and branches embrace the following roads: The Winchester & Potomac the Winchester & Strasburg and the Harrisonburg branch, the South branch, the Fairmont, Morgantown & Pittsburgh, the Confluence & Oakland, the Grafton & Belington, the Washington on County, the Baltimore & New York, the Baltimore & Potomac (its passenger business) May and June, 1895.

**The Philadelphia division embraces the Baltimore & Philadelphia Railroad and the Philadelphia branch.

***The Pittsburgh division embraces the following roads: The Pittsburgh & Connellsville, the Somerset & Cambria, the Hickman Run, the Mount Pleasant & Broadford, the Fayette County, the Berlin, the Ohio & Baltimore Short Line (Eastern division).

A comparison of the twelve months ended June 30, 1895, with the twelve months ended June 30, 1894, shows the following:

Increase in gross earnings.....	\$ 314,519 89 or 01.40 per cent.
" operating expense.....	240,354 82 or 01.54 "
" net earnings.....	74,165 07 or 01.07 "
" earnings from freight.....	1,674,585 98 or 12.03 "
Decrease in earnings from passengers.....	1,382,460 90 or 21.49 "
Increase in tons moved.....	2,723,248 or 20.39 "
Decrease in passengers carried.....	1,419,323 or 14.74 "

The decrease in Passenger Revenue or the fiscal year ended June 30, 1895, as compared with the previous fiscal year, is because the greater part of the large earnings from the World's Columbian Exposition travel accrued to the former year.

The demoralization in freight rates, which began so seriously in 1894 was intensified in the past fiscal year, during part of the latter half of which freight rates were lower than ever before prevailed, affecting all classes of traffic.

In steam coal, so important a branch of this Company's freight traffic, the prices for the greater part of the past fiscal year were the lowest ever known.

This condition was not due to any demand upon the part of the consumers, but solely to the reckless competition inaugurated by some of the producing regions and the lines to which they were tributary.

It may afford some illustration of the extent to which this general rate demoralization had extended by stating that, compared with 1894—the largest tonnage and revenue year of this company—the tons one mile in 1895 showed a decrease of 8.20 per cent, while the revenue therefrom showed a decrease of 11.22 per cent, the classification being in favor of the latter year.

How forcibly do such facts emphasize the urgent necessity for the adoption of measures to correct the evil, and to secure to the public what it most desires, namely, uniform and reasonable rates, with the efficient service to insure which this is essential.

But for the judicious economies observed, and the better handling of traffic, rendered possible by the increased facilities and improvements in every department of the system, this rate situation would have produced even less satisfactory net results.

TONNAGE OF THE YEAR, WITH COMPARISON.

The tonnage moved on the entire system is shown by the following statement:

Tons carried in 1884	8,629,048	Tons carried in 1890	13,988,176
" " " 1885	8,422,930	" " " 1891	14,848,972
" " " 1886	9,807,886	" " " 1892	15,735,859
" " " 1887	10,572,893	" " " 1893	16,356,415
" " " 1888	11,195,940	" " " 1894	17,357,775
" " " 1889	12,161,380	" " " 1895	18,482,473

CONSTRUCTION AND BETTERMENTS.

The aggregate expenditures for construction and betterments for the twelve months have been:

For the twelve months ended June 30, 1894, they were: \$611,366 11

A decrease for the twelve months ended June 30, 1895 of: \$ 509,284 53

This sum of \$611,366 11 has been charged to the different investment accounts to which the expenditures appertain. It is distributed as follows:

Lines East of Baltimore	\$172,150 27
Main Stem and Branches	269,215 36
Pittsburgh Division	32,462 97
Trans-Ohio Division	167,477 51

\$611,366 11

For details of these expenditures for construction see Table B, appended to the Report of the General Manager.

SINKING FUNDS.

The company has maintained through the year its cash appropriations to the Sinking Funds of its Sterling Loan due in 1927, and the P. and C. Consolidated Mortgage Loan due in 1926. These two funds now aggregate \$1,594,044.

The investments for the appropriations and increments of the Main Line Sinking Funds, in pursuance of the agreement to that effect, have been made in the Consolidated Mortgage five per cent. one-hundred-year Bonds of this Company.

These investments in the hands of the Trustees of the Main Line Sinking Funds now amount to \$8,231,196, viz.: \$1,885,000 Consolidated Mortgage five per cent. one-hundred-year Bonds of the Company and \$6,346,196 of other first-class interest bearing bonds. See "Sinking Funds," Balance Sheet, Table B.

PAYMENT TO THE CITY OF BALTIMORE ON ACCOUNT OF ITS INTEREST IN THE PITTSBURGH AND CONNELLSVILLE RAILROAD.

The Company has made its nineteenth annual payment of \$40,000 to the City of Baltimore on account of the purchase of the city's interest in the Pittsburgh and Connelville Railroad, leaving still due \$240,000 of the original sum of \$1,000,000.

PAYMENT OF EQUIPMENT TRUST BONDS.

The Equipment Trust obligations of the Company have been issued as follows:

Car Trust of 1887	\$2,500,000
Equipment Trust, Series A, 1889	1,000,000
Equipment Trust, Series B, 1890	2,000,000

\$5,500,000

Ten per cent. of the principal sum is payable annually, and there has been accordingly paid as follows:

The Car Trust Loan of 1887 for \$2,500,000, eight annual payments, aggregating	\$2,000,000
The Equipment Trust Loan of 1889, Series A, for \$1,000,000, six annual payments	600,000
The Equipment Trust Loan of 1890, Series B, for \$2,000,000, four annual payments	800,000

Total Bonds paid and canceled \$3,400,000
Balance outstanding and unpaid \$2,100,000

RELIEF DEPARTMENT.

The report of the Relief Department for the twelve months ended June 30, 1895, will be printed for distribution among the members. The following shows the condition of that Department:

The active membership at the close of the fiscal year was 20,710, being an increase of 231 as compared with the previous year.

The receipts and income during the year ended June 30, 1895 have been	\$ 383,295 29
And the disbursements have been	301,006 57
From the commencement of the Relief Association to the close of the fiscal year the disbursements have been	4,615,477 84

The amount due depositors by the Savings Feature was:

At the close of the fiscal year of 1894	\$780,668 42
At the close of the fiscal year of 1895	846,042 74
The deposits during the fiscal year have been	297,586 19
The withdrawals of the depositors during the fiscal year have been	192,211 87

The amount due by borrowers under the provisions of the Savings Feature was:

At the close of the fiscal year, 1894	\$667,348 75
At the close of the fiscal year, 1895	689,425 77

An extra dividend of one and one-half per cent. was declared on all deposits drawing interest at the close of the fiscal year, thus making the interest for the year equivalent to five and one-half per cent. per annum.

The funds of the Savings Feature are loaned only to employees of the Company, to enable them to purchase or improve homesteads or to release liens thereon.

At the close of the fiscal year there were 218 names on the Pension roll, the disbursements on this account for the year having been \$34,500.05, and for the whole period \$273,054.37.

PHILADELPHIA DIVISION.

The following is the result for the twelve months ended June 30, 1895:

Gross Earnings	\$1,776,317 23
Expenses	1,277,835 61
Net Earnings	\$558,481 62

The following is the comparison of the Philadelphia Division for the twelve months ended June 30, 1895 with June 30, 1894:

	1895.	1894.	
Gross Earnings	\$1,776,317 23	\$1,833,841 78	decrease of \$57,524 55 or 3.14 per cent.
Expenses	1,217,835 61	1,319,771 96	" 101,936 35 or 7.72 "
Net Earnings	\$558,481 62	\$514,069 82	Increase of \$44,411 80 or 8.61 "

STATEN ISLAND RAPID TRANSIT RAILROAD.

The following is the comparison for the twelve months ended June 30, 1895 with June 30, 1894:

	1895.	1894.	Inc.	Dec.
Gross Earnings	\$875,342 51	\$1,031,373 24		\$156,030 73
Operating Expenses	471,671 58	623,917 88		152,246 30
Net Earnings	\$403,670 93	\$407,455 36		\$ 3,784 43
Interest, Rentals and Taxes	314,523 47	350,440 59		5,917 32
Surplus	\$ 89,147 66	\$ 57,014 77		\$ 2,132 89

The statement of the Staten Island Rapid Transit Railroad Company, in this Company's Annual Report, heretofore included the receipts from the Whitehall Ferry.

That Ferry, having become a separate organization, its operations are not included in the above statement, which accounts for the decrease in Earnings and Expenses of the Staten Island Rapid Transit Railroad Company.

That Company has recently closed a contract for the construction of the passenger station, sheds and approaches at St. Georges, which will give very superior much-needed facilities, both passenger and freight, at this most important terminal.

BALTIMORE BELT RAILROAD.

On the first of May last the Baltimore Belt Railroad was so far completed as to be open for passenger traffic—the trains being hauled by the regular passenger power of the Philadelphia Division. On the 10th of August last the line was opened to the freight trains of the Company, hauled by the new electric motor which was ready for use at that time.

With this transfer to the Baltimore Belt Railroad Line of the entire passenger and freight traffic of the Company between Baltimore and its Philadelphia Division, the water transfer from Locust Point, Baltimore, to Canton, was in August last abandoned.

The line is now completed, with the exception of the freight yards and up-town passenger station. It is in every particular, an admirably planned and constructed work, thoroughly suited to the purpose for which it was designed, and well worth the time and money expended upon it.

The Company has recently established, but not yet completed, four freight yards upon the line, in the most rapidly growing part of the city, at which an active business is already being done. These facilities will, in the very near future, bring to the Company a large volume of additional freight traffic.

The new passenger station—"Mount Royal Station"—was commenced in August last, and will be ready for occupation in the early spring. It is very eligibly located, and will offer every convenience and facility to that large and growing residence section of the city.

The Electric Power House at Camden station, which is to supply power for the Electric Motor train service in the tunnel, and light for the tunnel, the yards, shops, buildings and offices of the Company in the City of Baltimore, has been in successful operation since June last.

The two remaining Electric Motors, to complete the equipment of three, will be finished before the close of the present calendar year.

The entire freight and passenger service through the tunnel will then be hauled by electric motors, and in view of the successful operation of the motor in service since August 4, no doubt is entered of the entire success of the undertaking, making a rapid tunnel service, heretofore so undesirable, as agreeable to the traveling public as that in the open.

TERMINAL PROPERTIES.

Of the important terminal properties of the Company referred to in last Annual Report, those at Pittsburgh and District of Columbia have not been completed during the past fiscal year, as was contemplated, owing to legal difficulties in obtaining the right of way for the railroad to be constructed, in connection therewith. It is expected these obstacles will be entirely removed and the work completed during the current calendar year. The work at the Cumberland terminal is being rapidly pushed for completion by the early spring.

The appropriations for the above will complete the terminal facilities covered by the Terminal Loan. They are provided for by the \$1,387,500 reserved from the proceeds of that loan, which sum is placed with the special depositaries for this fund, as shown in Balance Sheet.

STERLING LOAN OF 1870 FOR \$200,000.

The six per cent. Sterling Loan of the Company for \$200,000 negotiated in 1870, matured March 1, 1895, and was paid off that date through the operation of the Miscellaneous Bonds in the sinking fund provided for in that loan, amounting to \$2,202,412. And through the Consolidated Mortgage five per cent. 100-year Bonds of the Baltimore and Ohio Railroad Company, as provided for in the Mortgage of December, 1887, covering the same, amounting to \$1,888,000.

This has effected a reduction of the total Funded Debt, as compared with 1894, of \$2,202,000.

THE CLEVELAND TERMINAL AND VALLEY RAILROAD COMPANY.

The Valley Railway, extending from Valley Junction to Cleveland, of which the Baltimore and Ohio Railroad Company has had a controlling interest through ownership of stock, has recently been reorganized upon a sound and conservative basis under the title of the Cleveland Terminal and Valley Railroad Company, in which reorganized company the Baltimore and Ohio Company retains a controlling interest.

The Baltimore and Ohio Company has sold to the new company the valuable terminal properties it had acquired in Cleveland, with the view of giving the new company proper terminal facilities for its own business, and enabling it to furnish the much needed terminals for several lines desiring such facilities in Cleveland.

Contracts for the use of its terminals and part of its line have already been made with the Wheeling and Lake Erie Railway Company. It is expected similar contracts will shortly be made with one or two other important lines, in addition to the existing contract made by the Receivers of the old Company.

The property, as reorganized, will be a very valuable adjunct to the Baltimore and Ohio System. The Baltimore and Ohio Railroad Company has agreed to endorse the \$6,000,000 Four per cent. One Hundred Year Coupon Bonds of the reorganized company.

While the continued depression in business during much of the past fiscal year, and the extreme low rates of freight prevailing during the same, has rendered it proper for the management to exercise every economy consistent with a proper maintenance of the property, it has been deemed wise to continue to make improvements in the "Maintenance of Way and Structures" and "Maintenance of Equipment," and to continue, as heretofore, to charge a large portion of these expenditures to Operating Expenses.

In these Departments, the expenditures have been confined mainly to material improvements in Road-bed, Bridges and Culverts, and such improvements in "Maintenance of Equipment" as would prove most effective while upon improvements or enlargements of Stations, Platforms, Buildings, and the like, the expenditures have been restricted to what was necessary for proper maintenance only.

The expenditures for the fiscal year have been:

For Maintenance of Way and Structures	\$2,846,232 71
For Maintenance of Equipment	2,492,716 03
For Construction	641,306 11

All these expenditures upon "Maintenance of Way and Structures" and "Maintenance of Equipment" have been charged to Operating Expenses.

The very careful and thorough manner in which all the Company's work—both current and Improvements has been done in the past few years, enabled the Management to maintain the property in all Departments, and to largely improve it in some, at a minimum expenditure.

The Road Bed over the entire System has never, in the history of the Company, been in the superior condition which it is at present.

The continued steady increase in the already large volume of business with the restoration of rates which it is reasonably expected must be made—promise an early return of railroad traffic to remunerative conditions.

The proposed agreement of the "Joint Traffic Association" in connection with which your Company has for a long time been earnestly engaged, will, when attained, materially aid the maintenance of these very important and desirable conditions.

Attention is called to the following tables attached to this Report, which give in detail information connected with the several subjects:

- Earnings and Expenses of all lines East and West of the Ohio River.
- Statement of Net Earnings and Income and Fixed Charges on all lines of the system, together with the profit or loss upon each.
- Statement of Income from sources other than the operation of the Railroad System.
- Statement of Interest Charges, Taxes, Rents, etc.
- General Balance Sheet.
- Profit and Loss.
- Statement of entire Funded Debt of the Baltimore and Ohio Railroad Company's System, including that for account of the Baltimore and Ohio and Chicago Railroad Companies, the Parkersburg Branch Railroad Company, the Philadelphia Branch and the Baltimore and Philadelphia Railroad Company; also the Funded Debt of the Pittsburgh and Connelville Railroad Company.
- Bonds for which the Company is Guarantor.
- Leases of the Company.
- Profit and Loss, Washington Branch.

The President and Directors take great pleasure in again acknowledging the faithful and efficient services of the officers and employees of the Company during the past fiscal year. To their special efforts is due the admirable condition of the Company's property, under a reduced expenditure in most Departments or the service.

By order of the Board,

CHARLES F. MAYER, President.

The foregoing Report was unanimously accepted and approved.

The meeting then proceeded to the election of Directors for the ensuing year.

The following gentlemen were unanimously elected by a vote of 189,797 shares—the largest in the history of the Company:

DIRECTORS—Wm. F. Burns, Wm. H. Blackford, Eugene Delano, Howland Davis, Louis Fitzgerald, William F. Frick, Maurice Gregg, George C. Jenkins, Aubrey Pearre, William A. Read, Alexander Shaw, Geo. A. Von Lingen.

MESSENGERS—George J. Appold, Thos. I. Carey and Gilmor Meredith acted as Judges of Election.

Winter Excursion Tickets on the Pennsylvania Railroad.

On November 1 the Pennsylvania Railroad Co. placed on sale at its principal ticket offices excursion tickets to all prominent winter resorts in New Jersey, Virginia, North and South Carolina, Georgia, Florida and Cuba. The tickets are sold at the usual low rates.

The magnificent facilities of the Pennsylvania Railroad, with its many connections, make this the favorite line for winter travel.

An illustrated book, descriptive of winter resorts, and giving routes of travel and rates for tickets, will be furnished free on application to ticket agents.

Tours to the Golden Gate and Florida via Pennsylvania Railroad.

That the public are quick to recognize the advantages of the Pennsylvania Railroad Co.'s perfect personally-conducted tourist system is exemplified by the annual increase in the number of participants in tours organized under that system. Aside from this, the growing desire of Americans to see the wonders of their land is also an important factor in advancing this healthy sentiment in favor of travel.

This season's tours to California will be conducted in all respects as those of preceding years, and will leave New York and Philadelphia February 12 and March 11, 1896. On the first tour a stop will be made

at New Orleans for the Mardi-Gras festivities, and four weeks will be allowed in California. On the second tour four and a-half weeks will be allowed in California.

In addition to the tours to the Golden Gate a series of tours to Jacksonville has been arranged. The tours will leave New York and Philadelphia January 25, February 4, 11, 18 and 25, and March 3, 1896, and allow two weeks' stay in the "Land of Flowers."

Detailed itineraries of these tours will be sent on application to tourist agent, 1196 Broadway, New York, or Room 411, Broad-street Station, Philadelphia.

Atlanta via Pennsylvania Railroad.

For the Cotton States and International Exposition, which is proving a great success and being visited by increased numbers every day, the Pennsylvania Railroad Co. has arranged a most desirable passenger train service with through sleeping cars over their own and connecting lines. Excursion tickets are now being sold at the company's principal ticket offices in Baltimore to Atlanta and return at the following low rates and conditions:

- \$28.50. For season tickets, sold until December 15, 1895, limited to return until January 7, 1896.
- \$21.25. For 20-day tickets, sold daily until December 15, 1895.
- \$16.00. For 10-day tickets, sold Tuesday and Thursday of each week until December 24, 1895.

Alphabetical Index of Advertisers.

FOR "CLASSIFIED INDEX" SEE PAGES 3, 5 AND 7.

A	Abbott, B. S.	1	Chrome Steel Works.	13	Fort Wayne Electric Corporation.	43	McEwen, J. H., Mfg. Co.	14	Shawhan-Thresher Electric Co.	43
	Adams, S., & Son.	1	Church, Isaac.	30	Foster, Chas. F.	6	McGowan, John H., Co.	36	Sheppard, S. C.	44
	Ahrens & Ott Mfg. Co.	17	Cin., Hamilton & Dayton R. R.	41	Foster Machine Co.	33	McKee, H. L.	25	Shultz Belting Co.	11
	Aiken, Wm. Martin.	23	Clapp, Geo. M.	25	Franklin, H. H. Mfg. Co.	10	McKee, John T.	19	Sims Co., Ltd.	16
	Akron Belting Co.	11	Clapp & Co.	23	Freese, E. M., & Co.	10	McLanahan & Stone.	25	Sinclair, S. H., Co.	8
	Alabama Land & Development Co.	40	Clark Foundry & Machine Co.	19	French, Saml. H., & Co.	10	McMillan Bros. & Co.	9	Situations Wanted.	39
	Albro, E. D., Co.	8	Clark, Geo. P.	37	Frick Co.	14	Mecklenburg Iron Works.	14	Skinner Chuck Co.	30
	Alsing, J. R., Co.	18	Clark, W. J., & Co.	19	Frisbee Lucop Mill Co.	18	Melton, A. L.	6	Smith-Courtney Co.	16
	American Ball Nozzle Co.	22	Clark, Jeremiah.	32	Froehling, Dr. Henry.	6	Merchandise & Miners' Transp. Co.	40	Smith, S. Morgan.	38
	American Banking & Trust Co.	22	Clarson & Slaysman.	10	Frontier Iron Works.	29	Merrill Mfg. Co.	9	Smith & Kilby Co.	32
	American Imp. Anti-Frict. Met. Co.	20	Cleveland, Lorain & Wheeling R.R.	41	Furbush, M. A., & Son Mch. Co.	32	Merrill & Richardson.	37	Smith's Sons Gin & Machine Co.	26
	American Ship Windlass Co.	38	Cleveland Twist Drill Co.	2			Metesser.	17	Snow Steam Pump Works.	37
	American Supply Co.	33	Clonbrock Steam Boiler Works.	15	G		Meyer, Roth & Pastor.	12	Southeastern Plaster Co.	6
	American Well Works.	37	"C. M."	24	Gainesville Iron Works.	18	Meyers, Fred. J., Mfg. Co.	12	Southern Elec. Mfg. & Supply Co.	41
	Arctic Machine Manufacturing Co.	4	Coaldale Brick & Tile Co.	6	Gandy Belting Co.	11	Middendorf, Oliver & Co.	10	Southern Expanded Metal Co.	32
	Armstrong-Herschell Co.	39	Coker, Wm.	30	Gas Engine & Power Co.	38	Milner & Kettig Co.	22	Southern Iron & Equipment Co.	16
	Armstrong, Robt. S., & Bro.	25	Cochran Iron Fdy. & Mch. Co.	33	Gates Iron Works.	18	Minnigerode, Wm.	26	Southern Log Cart & Supply Co.	26
	Asbrand, C. W.	30	Collins, H. E. & Co.	22	General Electric Co.	42	Minnigerode & Co.	26	Southern Lumber Directory.	27
	Atkins, E. C., & Co.	28	Columbia Corrugating Mfg. Co.	30	General Fire Extinguisher Co.	10	Mississippi Delta.	23	Southern Pacific Co.	41
	Atkins, Jos. L.	9	Columbus Iron Works Co.	4	Gibbs, C. M. & Co.	6	Mitchum, M., & Co.	23	Southern Railway Co.	41
	Atlanta Supply Co.	34	Commercial Electric Co.	42	Ginsburg, R. L., & Sons.	26	Moore Mfg. & Foundry Co.	44	Southern Real Estate Exchange.	40
	Atlanta Terra Cotta Co.	6	Commercial Wood & Cement Co.	6	Glascock & Co.	9	Morris, Tasker & Co.	41	Southern Saw Works.	30
	Austin, F. C., Mfg. Co.	44	Consolidated Roofing Works.	4	Golden's Foundry & Machine Co.	35	Morris, Williams & Co.	21	Southern Telephone Co.	43
	Automatic Water Tank Co.	22	Contractors' Plant Mfg. Co., Ltd.	4	Gordon, Henningham.	6	Morton, Reed & Co.	13	Southern Terra-Cotta Works.	6
B			Cooper, J. W.	21	Goubert Mfg. Co.	17	Mossy Creek Mfg. Co.	24	Southern Water Supply Co.	37
	Babcock & Wilcox Co.	15	Corbett Mill & Machine Co.	21	Gowdrey, J. A., & Son.	32	Moyes, L. M.	16	Spence, L., & Son.	9
	Bailey-Lebby Co.	19	Cordesman, Meyer & Co.	22	Graham, J. S., & Co.	28	Mueller, H., Mfg. Co.	37	Springfield Machine Tool Co.	12
	Baldwin Locomotive Works.	13	Cortright Metal Roofing Co.	30	Granger Foundry & Machine Co.	24	Mundt & Sons.	16	Sprinkle Pulley & Woodenware Co.	35
	Ball, Geo. C., & Co.	26	"Cotton Mill".	24	Graves Elevator Co.	21	Munn, S. Son & Co.	19	Sprout, Waldron & Co.	21
	Ball, Geo. Co.	9	Covert Mfg. Co.	8	Guarantors Liability Indemnity Co.	35	Munro, R. F., Secretary.	43	Standard Dry-Kill Co.	29
	Ballard Co., B. W.	25	Covington, John I.	10	Gubert, John L. N.	10	Murray, John, & Co., Ltd.	10	Standard Electric Co.	43
	Baltimore Engraving Co.	41	Cox, Justice, Jr.	26	Guild & White.	6	Murray, James & Son.	18	Standard Tool Co.	44
	Baltimore Storage & Light. Co.	40	Crews & Westbrooks.	18	H				Starr, B. F., & Co.	21
	Bangor Foundry & Engine Works.	4	Crompton Loom Works.	*	Haines, Jones & Cadbury Co.	41			Stearns, E. C., & Co.	21
	Barnes, W. F. & John, Co.	12	Cronk Hanger Co.	1	Hales & Baling.	6			Stebbins, Wallace.	12
	Barrett, S. E., Mfg. Co.	31	Cumberland I. & S. Shifting Co.	35	Hanahan, J. Ross.	6			Steel Cable Engineering Co.	25
	Bates, Jas.	9	Cumner, F. D., & Son Co.	20	Hardick's Niagara Stm. Pump Wks.	36			Steel Rail Supply Co.	16
	Battle Creek Steam Pump Co.	36	Curtis & Marble.	33	Harper & Bros.	23			Stender, William L.	10
	Bay Line.	40	Cypress Tank Co.	9	Harrington & King Perforat'g Co.	19			Stender, J., & Co.	25
	Beach, H. L.	29	D		Harris, N. W. & Co.	8			Stirling Emery Wheel Mfg. Co.	8
	Beckley, A. J., & Co.	19	Dallitt & Co.	26	Hartford Fdy. & Mach. Works.	14			Stevens, H., Sons Co.	44
	Belden Machine Co.	12	Davis, G. M., & Son.	9	Hartford Steam Boiler Inspection	14			Stevenson & Co.	10
	Berlin Machine Works.	28	Davis-Farrar Co.	37	Hauburg, E. O.	41			Stewart, Jas. & Co.	6
	Berthelotte, C., & Co.	26	Davis Foundry and Mch. Works.	37	Heathman, E. M., & Co.	8			Stewart Contracting Co.	6
	Bertsch & Co.	40	Davis, Kelly & Co.	16	Heffernan, Wm. A.	30			Stewart, J. & Co.	34
	Besly, Chas. H., & Co.	41	Dayton Gas Engine & Mfg. Co.	16	Help Wanted.	4			Stirling Company.	15
	Bethlehem Foundry & Machine Co.	31	Dean Bros. Steam Pump Works.	36	Hendrick Mfg. Co., Limited.	19			Stow Flexible Shaft Co.	9
	Bethlehem Iron Co.	13	De Este & Seeley Co.	17	Hewitt, F. R.	24			Stow Mfg. Co.	10
	Big Four Route.	40	De Kalb, Courtenay.	6	Hickman, Williams & Co.	25			Stromberg-Carlson Tel. Mfg. Co.	43
	Bird, Wm. M., & Co.	6	De Loach Mill Mfg. Co.	34	Hill, Nicholas S., Jr.	6			Struthers, Wells & Co.	17
	Birmingham Boiler Works.	9	Deming Co.	36	Hirsch, L. K.	26			Sturtevant, H. F., Co.	33
	Blackmer, M. M.	39	Denis & Lance.	6	Hogan Boiler Co.	16			Sturtevant Mill Co.	18
	Blake, Geo. F., Mfg. Co.	37	Diamond Machine Co.	9	Hollingsworth, Wm.	4			Sullivan Machinery Co.	19
	Blakeley Mfg. Co.	36	Dungee, Weinman & Co.	4	Holmes, E. & B., Machinery Co.	28			Supply Manufacturing Co.	42
	Bland, Jno. H.	26	Dixon, Henry, & Sons.	4	Holmes, Thos. H.	28			Suter Linder Pulley Co.	35
	Block-Pollak Iron Co.	26	Dixon, Jos., Crucible Co.	44	Hoopes & Townsend Co.	13			Sutton, H. H.	24
	Blue Ridge Cement & Lime Co.	6	Doig, Wm. S.	44	Hooven, Owens & Rentschler Co.	15			T	
	Bolles, J. E., & Co.	10	Dopp, H. Wm., & Son.	35	Horix Mfg. Co.	38			Talbot & Sons Co.	14
	Boomer & Boschert Press Co.	23	Dorner & Dutton Mfg. Co.	4	Horton Mfg. Co.	44			Taper-Sleeve Pulley Works.	9
	Boston Belting Co.	11	Duff, Wm. W., & Bro.	40	Howard Bros. Mfg. Co.	32			Taunton Locomotive Mfg. Co.	9
	Bostwick Fire-Proof Steel Lath Co.	31	Duval, J. E.	41	Howard-Harrison Iron Co.	9			Thorn Shingle & Ornament Co.	30
	Box 57.	39	E		I				Threlkeld William, Receiver.	24
	Bradford Mill Co.	12	Eagle Boiler Works.	17	Illinois Central Railroad Co.	40			Thursby, Jas. E.	26
	Bradley Pulverizer Co.	18	Easton & Burnham Machine Co.	33	India Alkali Works.	32			Titus, E.	1
	Bradstreet Company.	23	Eccles, S., Jr.	*	Indiana Machine Works.	29			Tompkins Co., The D. A.	34
	Brightman Furnace Co.	17	Eisenbrandt Cycle Co.	6	Ingersoll-Sergeant Drill Co.	22			Tonkin Boiler & Engine Wks. Co.	15
	Brown, T. H., & Co.	30	Elbridge Electric Mfg. Co.	43	International Corres. Schools.	6			Toomey, Frank.	45
	Brown, A. & F.	35	Electric Heat Alarm Co.	35	J				Tow Boat.	24
	Brown & Garber.	6	Electric Storage Battery Co.	43	Jamieson Fire-Resisting Paint Co.	31			Towner & Co.	11
	Brown & King Supply Co.	32	Elliot & Stutzman.	29	Jarden Brick Co.	31			Trenton Iron Co.	10
	Brown Hoisting & Con. Mch. Co.	22	Emerson, V. L., & Co.	24	Jeffrey Mfg. Co.	20			Trevor Mfg. Co.	30
	Bryan, Malcolm W., Trustee.	24	Empire Glass & Decoration Co.	1	Jenkins Bros.	44			Tripod Paint Co.	31
	Buckeye Iron and Brass Works.	34	Empire Paint & Roofing Co.	3	Jenkins & Cochran.	27			Triumph Electric Co.	44
	Buffalo Forge Co.	44	Enequist, John.	6	Johns, H. W., Mfg. Co.	23			Tudor Boiler Mfg. Co.	15
	Burnham Bros.	38	Engelburg Huller Co.	9	Johnson, Edwin Lehman.	6			Turman, Solon B.	24
	Burns Manufacturing Co.	4	Enterprise Machine Works.	25	Johnson Line.	40			Tyler, Owen.	30
	Burrows, E. T., Co.	9	Entwistle, T. C.	*	Joseph Jos., & Bros.	26			U	
	Bushnell, G. H., Press Co.	34	Epping, E. H., Secretary.	24	Judd, H. A.	24			Union Central Life Insurance Co.	23
	Byers, Jno. F., Machine Co.	4	Epping, Carpenter & Co., Ltd.	37	Junction Iron & Steel Co.	35			Union Chain Works.	13
C			Erwin Hydraulic Machinery Co.	37	K				Union Foundry & Machine Works.	19
	Caldwell, H. W., & Son Co.	2	Esty Sprinkler Co.	31	Kant, N. G.	24			Union Iron Works Co.	*
	Caldwell Land & Lumber Co.	27	Evans, George C.	26	Kearny, J. Watts, & Son.	8			Universal Electric Co.	43
	Callahan & Lewis Mfg. Co., Ltd.	*	Ewing, H. O.	24	Keeler, E., Co.	9			Universal Telephone Co.	39
	Camden Steel Roofing & Cor. Co.	*	Exchange Banking & Trust Co.	24	Keene Machine Co.	9			U. S. Machine Co.	29
	Cameron, A. S., Steam Pump Wks.	36	F		Keightley, S., & Co.	10			U. S. Sanitary Co.	1
	Cameron & Barkley Co.	19	Farquhar, A. B., Co., Ltd.	30	Kensington Engine Works.	36			U. S. Telephone Construction Co.	43
	Campbell & Zell Co.	15	Fay, J. A., & Egan Co.	28	Kelly, O. S., Co.	44			V	
	Canton Steel Roofing Co.	31	Fay Manila Roofing Co.	30	Kilbourne & Jacobs Mfg. Co.	2			Vaile & Young.	*
	Capital Stained Glass Works.	30	Ferrandina Oil & Creosote Works.	8	Kilburn, Lincoln & Co.	32			Valk & Murdoch Iron Works.	15
	Card Electric Co.	43	Ferrante Machine Co.	31	"K. L."	23			Valley Iron Works.	16
	Cardwell Machine Co.	34	Fifield Tool Co.	25	Knowles Loom Works.	33			Valley Railway.	41
	Carnell, George.	10	Filley, A. E., Mfg. Co.	31	Knowles Steam Pump Works.	33			Vanduzen, E. W., Co.	37
	Carolina Buff & Brown Stone Co.	6	Fisher & Davis.	30	L				Vulcan Works.	32
	Caroline Iron Works.	20	Fitchburg Steam Engine Co.	14	Laidlaw-Dunn-Gordon Co.	36			W	
	Carver Cotton Gin Co.	21	Flush Tank Co.	39	Lambert Gas & Gasoline Eng. Co.	16			Wagner, A. P., Co.	12
	Casner & Curran.	39	Foos Gas Engine Co.	16	Lane Foundry and Machine Works.	14			Walker Mfg. Co.	1
	Cattlett, Charles.	6	Foos Mfg. Co.	18	Lane Manufacturing Co.	29			Walker & Elliott.	18
	Central Manufacturing Co.	25	Force & Briggs.	12	Lange, Wm. H. A.	6			Warfield, S. D., Co.	17
	Chapman, Wm. A., & Co.	41	G		Law, Samuel, & Sons, Limited.	32			Warner Elevator Mfg. Co.	21
	Chapman Valve Mfg. Co.	38	Gainesville Iron Works.	18	Leary, W. A.	29			Warren Chemical & Mfg. Co.	31
	Charleston Lead Co.	20	Gandy Belting Co.	11	Leathley, W. M., & Co.	37			Watkins & Hardaway.	6
	Charlotte Machine Co.	33	Gas Engine & Power Co.	38	Leffel, James, & Co.	37			Weber, F., & Co.	21
	Chattanooga Fdy. & Pipe Works.	17	Gates Iron Works.	18	Lidgerwood Manufacturing Co.	40			Weber Gas & Gasoline Engine Co.	16
	Chattanooga Machinery Co.	39	General Electric Co.	42	Link-Belt Engineering Co.	20			Webster, Warren, & Co.	14
	Chattanooga Paint Co.	31	Golden's Foundry & Machine Co.	35	Lodge & Davis Machine Tool Co.	25			Wedderburn, John, & Co.	9
	Chattanooga Steel Roofing Co.	30	Gordon, Henningham.	6	Lombard, Geo. R., & Co.	9			Weir Frog Co.	4
	"Cherokee".	24	Gouber, John L. N.	10	Long & Alstatter Co.	12			Western Maryland Railroad.	41
	Chester Steel Castings Co.	13	Guarantors Liability Indemnity Co.	35	Lookout Steam Boiler Works.	16			Westinghouse, Church, Kerr & Co.	20

Ads. marked thus * appear every other week.

Ads. marked thus † appear in first issue of each month.

Ads. marked thus ‡ not in this issue.

ATLANTA EXPOSITION SUPPLEMENT.

THE SOUTH'S COAL.

The Growth of Coal-Mining as Illustrated at the Exposition.

One of the greatest of the industries of the South is that of mining coal. Prior to the war the coal production of the Southern States was almost nothing, and even in 1873 the total output was but 1,366,800. Of this, Alabama produced 44,800; Kentucky, 300,000; Tennessee, 350,000, and West Virginia, 672,000 tons. There was a slow but steady growth until 1881. In 1882 the production began to increase rapidly, and in 1883 the total output for the Southern States amounted to nearly 10,000,000 tons. In this year Alabama produced 1,568,000 tons; Kentucky, 1,650,000; Tennessee, 1,000,000, and West Virginia, 2,335,833. From that time until 1892 there was a steady and rapid increase in production. During this year and 1893 the output of the various States reached its highest figure, declining slightly in 1894, owing to the depression in trade then existing. In this latter year the coal output of all the Southern States was 28,321,608, showing an increase in twenty years of 26,954,808, and in eleven years of 18,339,700; that is, in the eleven years from 1883 to 1894 the coal output of the South was trebled. The following table shows the increase by States. The output of Georgia of 150,000 tons was in 1884, and of the Indian Territory in 1885. These are both credited in 1883 to make totals:

States	1873.	1883.	1894.
Alabama.....	44,800	1,568,000	4,397,178
Arkansas.....		50,000	512,626
Georgia.....		150,000	354,111
Indian Territory.....		500,000	969,605
Kentucky.....	300,000	1,650,000	3,111,192
Maryland.....		2,470,475	3,501,418
North Carolina.....			16,900
Tennessee.....	350,000	1,000,000	2,180,879
Texas.....			420,848
Virginia.....		250,000	1,229,083
West Virginia.....	672,000	2,335,833	11,627,757
Total.....	1,366,800	9,981,908	28,321,608

The production in Alabama during 1894 was less than any previous year since 1890, and the price received was the lowest in the history of coal-mining in the South. The figures of production given are from the very complete article on coal contributed by Mr. E. W. Parker in the "Mineral Resources," published by the United States Geological Survey. The following figures show the production in Alabama for five years, with the value, price per ton, average number of days worked and average number of employees:

Years	Short tons.	Value.	Price per ton.	Average days worked.	Employees.
1890.....	4,090,469	\$4,202,469	\$1.03	217	10,642
1891.....	4,759,781	5,087,596	1.07	268	9,302
1892.....	5,529,313	5,788,895	1.05	271	10,075
1893.....	5,139,935	5,096,794	.97	237	11,291
1894.....	4,397,178	4,085,535	.93	238	10,859

The production by counties is given as follows:

Counties.	1891.	1892.	1893.	1894.
Bibb.....	619,809	793,469	806,214	401,061
Blount.....				8,000
De Kalb.....				40
Jackson.....				6,011
Jefferson.....	2,925,343	3,391,274	3,693,277	2,766,302
St. Clair.....	66,060	24,950	72,000	43,517
Shelby.....	34,130	27,968	55,339	76,619
Tuscaloosa.....	142,184	168,639	167,516	191,081
Walker.....	980,219	1,103,612	927,349	891,953
Winston.....			3,200	4,634
Small mines.....	12,000	12,000	12,000	8,000
Total.....	4,759,781	5,529,313	5,139,935	4,397,178

In the Mineral and Forestry Building at the exposition Walker county is represented by the Corona Coal & Coke Co., which shows a block of coal three feet eight inches high, representing a section of its seam. The Corona Coal & Coke Co. has in addition a very instructive exhibit alongside the Alabama Building, where a model of a coal mine is shown. The sides and ends of the entrance are built of blocks of coal, and tracks run in with mining cars exactly as in actual practice.

The Galloway Coal Co. shows a section three feet two inches, and the Virginia & Alabama Coal Co. shows a pyramid of coal, also a block three feet nine inches high, representing a section of its seam at Patton and Coal Valley mines.

Jefferson county is represented in the Mineral and Forestry Building by a block of coal from the Woodward Iron Co., of Birmingham, showing a section of its seam four feet six inches in height. An analysis of this coal is as follows:

Moisture.....	1.28 per cent.
Volatile matter.....	30.22 "
Fixed carbon.....	64.54 "
Ash.....	3.96 "

In the Alabama Building the Tennessee Coal, Iron & Railroad Co. has a very fine exhibit of the coal from its various mines in this county, and the company's representative has prepared some very interesting information regarding it. The following analysis of selected lump samples of coal and coke are interesting:

	Volatile matter.	Fixed Carbon.	Ash.	Sulphur.
Blue Creek lump coal.....	26.20	70.56	2.84	1.03
" coke.....			9.90	
Blackton lump coal.....	35.51	61.84	2.65	1.44
" coke.....			7.10	
Henry Ellen lump coal.....	32.51	61.91	5.58	0.70
Pratt lump coal.....	33.90	64.06	2.13	1.07
" coke.....			6.90	
Sewanee lump coal.....	27.57	65.70	6.72	0.42
" coke.....			13.16	

In the same building the Sloss Iron & Steel Co., of Birmingham, exhibits some coal from its mines in the same county, and, in connection with it, Mr. George Peacock, of Selma, Ala., has four of his mining cars, which are well known throughout the South. The Sloss Company presents the following analysis of the Coalburg coal:

Volatile matter.....	31 per cent.
Fixed carbon.....	61 "
Ash.....	8 "
Sulphur.....	2 "

Shelby county is represented in the Mineral and Forestry Building by the Montevallo Coal & Transportation Co., of Aldrich, Ala., which shows a two-foot two-inch section of its seam. The following analysis of this coal was made by J. S. Cary, of the World's Columbian Exposition:

Water.....	1.12
Volatile matter.....	41.85
Fixed carbon.....	51.21
Sulphur.....	1.37
Phosphorus.....	.00
Ash.....	4.45

Coal from these mines is celebrated throughout Alabama as being particularly fitted for grate and boiler use, and is in great demand.

The Parker Coal Co., of Cullman, Ala., shows in this same building a two-foot eight-inch section of its seam. An analysis of this coal is given as follows:

IN THE COAL.	
Carbon.....	63.44
Sulphur.....	1.05
Volatile matter.....	33.80
Moisture.....	.45
Ash.....	1.25
IN THE COKE.	
Moisture.....	.10
Volatile matter.....	.70
Fixed carbon.....	94.00
Ash.....	5.20
Sulphur.....	.80

Alabama coal is further represented at the Southern Railway exhibit, where there are several pyramids of it, and also some interesting cabinet specimens.

The earliest record of coal production in Arkansas, as given by Mr. Parker, was 5000 tons in 1882; in 1885 this had increased to 100,000 tons, and in 1893 to 574,763 tons, valued at \$773,347, which is equal to an average price of \$1.34 per ton. The average number of days worked were 151, and number of employees 1559. In 1894 the production had declined to 512,626 tons, valued at \$631,988, equal to \$1.22 per ton. The average number of days worked were 134, and number of men employed 1495. The counties engaged in mining were Johnson, Pope and Sebastian. In the former, three mines operated during 1894 produced 147,728 tons, of which 143,618 were loaded for shipment. Polk county had two mines which in the same year produced 17,788 tons, of which 16,366 tons were loaded for shipment. Sebastian county, which is the largest coal-mining county of the State, had in 1894 eight mines which produced 341,110 tons, of which 328,006 tons were shipped.

Arkansas is represented in the Mineral and Forestry Building by two large pieces, one from the Jenny Lind mines in Sebastian county and the other from the Ouita mine in Polk county. In the third biennial report of the bureau of mines for 1893-94 the following analysis is given of the coal from the Ouita slope:

Moisture.....	0.980
Sulphur.....	1.829
Ash.....	8.174
Fixed carbon.....	76.817
Volatile matter.....	12.200

This coal is classed as good semi-anthracite.

The production of coal in Tennessee in 1873, as already stated, was 350,000 tons, increasing to 1,000,000 in 1883 and 2,413,678 in 1891, which was the greatest production recorded in the State. In 1893 the output fell to 1,902,258 tons, but in 1894 had increased to 2,180,878 tons. The leading coal-producing counties of the State, with the amounts produced during the past three years in short tons, are as follows:

	1892.	1893.	1894.
Anderson.....	409,970	311,777	544,224
Campbell.....	299,605	362,503	183,268
Claiborne.....	137,219	181,530	167,153
Grundy.....	355,023	294,013	365,989
Hamilton.....	105,283	155,523	156,301
Marion.....	241,974	211,594	184,597
Morgan.....	34,970	78,190	64,601
Rhea.....	133,424	96,831	124,115
Roane.....	102,588	39,554	118,887
Scott.....	183,230	157,990	149,413
White.....	90,378	107,963	114,154
Small mines.....	5,400	5,200	8,159
Total.....	2,092,064	1,902,258	2,180,879

It is interesting to note the average prices received for this coal. This is shown in the following table:

	1891.	1892.	1893.	1894.
Anderson.....	\$1.15	\$1.11	\$1.02	\$.97
Campbell.....	1.27	1.19	1.25	1.05
Claiborne.....	1.19	1.04	.90	.94
Gundy.....	.89	1.11	1.04	.80
Hamilton.....	1.12	1.11	1.02	.90
Marion.....	1.11	1.08	.98	1.14
Morgan.....	1.09	1.35	1.67	.96
Rhea.....	1.00	1.00	.89	1.01
Roane.....	1.15	1.05	1.46	1.00
Scott.....	1.25	1.24	1.40	1.09
White.....	1.31	1.25	1.03	1.03
Average of State.....	1.01½	1.13	1.08	.97

Tennessee mines are represented in the

Forestry and Mineral Building by several interesting sections from various parts of the State. The Reliance Coal Co., at Hartranft, Clairborne county, has a large block of coal. The Bon Air Coal & Coke Co., of White county, has a section of the seam which it operates, its thickness being four feet. An analysis of the coal is as follows:

Moisture.....	1.68
Volatile matter.....	33.40
Fixed Carbon.....	59.35
Ash.....	4.44
Sulphur.....	1.13

The Roane Iron Co., at Rockwood, Roane county, shows here a block of coal five feet nine inches by five feet nine inches by ten inches, which represents the production of coal in Tennessee during every minute of the past year. This has been calculated from the figures of the United States Geological Survey, and gives an object-lesson which is impressive. Each day the State produced 1440 pieces of this size, and in the year 525,600 pieces. This mine is of particular interest, as being at the seat of the earliest coke-iron furnace in the South, and also because its formation differs from that of any other mine, the seam being in a series of folds and dislocations which at some places have given over thirty feet of coal, and at others none.

The seven coal companies in Campbell county working the Jellico seam are represented by a three-foot six-inch section of the seam exhibited by the Southern Jellico Coal Co. Three blocks of the famous Jellico "bird's-eye" coal are also exhibited.

North Carolina is but a small coal-producing State, its output in 1894 being 16,900 short tons, valued at \$29,675. The deposits are interesting, however, as being in the Triassic formation, similar to the deposits near Richmond, Va. While a small amount of coal for domestic use was mined for many years, no extended operations were commenced until 1890, when the Egypt Coal Co. began mining in the Deep River field, in Chatham county. In 1894 it was reorganized as the Langdon-Henzy Coal Mining Co. In the same year the Kohinoor Coal & Iron Co. opened a mine near Carabonton, in the same county, and the Gulf & Glendon Mining & Manufacturing Co. started operations in Moore county.

The output of the State since 1889 has been as follows in short tons:

	Tons.	Value.
1889.....	192	\$451
1890.....	10,262	17,864
1891.....	20,355	39,635
1892.....	6,679	9,599
1893.....	17,000	25,500
1894.....	16,900	29,675

In the Mineral and Forestry Building the North Carolina Geological Survey shows a section of the seam of the Langdon-Henzy Company, in Chatham county, at Cummock mine, showing seven feet ten inches, with a 17-inch seam of blackband, which burns slowly and leaves a residue which contains about 35 per cent. of iron, practically a self-reducing iron ore. The blackband as it occurs carries from 15 to 17 per cent. metallic iron.

Georgia is another of the smaller coal-producing States, its only mines being in Dade and Walker counties, and operating in an extension of the Warrior field of Alabama. The production and average value since 1891 are as follows:

	Tons.	Total value.	Price per ton.
1891.....	171,000	\$256,500	\$1.50
1892.....	215,498	212,761	.99
1893.....	372,740	365,972	.98
1894.....	354,111	299,290	.85

The coal operations of the State are represented in the Mineral and Forestry Building by a section from the mine of the Chickamauga Coal & Coke Co., of Walker county, showing four-foot five inch coal and a parting of 11-inch slate, through which there is a thin vein of coal, about one and one-half inches. Near the section of coal there is a pyramid of coke produced from this coal, and used in the Rising Fawn blast furnace, on the Southern Railway, below Chattanooga, and also at Chattanooga furnace.

The coalfields of Kentucky have practically been opened since 1870, as prior to that time their output was very small. The industry increased rapidly, however, and in 1879 there were produced 1,000,000 short tons. By 1885 this had further increased to 1,600,000 tons, and in 1890 to 2,701,496. The following table shows the production and value since that time:

Years.	Tons.	Price per ton.	Number of emp. yes.
1870.....	2,701,496	\$0.92	5459
1891.....	2,916,099	93	6355
1892.....	3,025,313	94	6724
1893.....	3,007,179	86	6581
1894.....	3,111,192	88	8083

Referring to the Kentucky coalfields Prof. John R. Proctor, then State geologist, says in the "Mineral Resources," 1892:

"Kentucky is the only State having within its borders parts of two great coalfields, the Appalachian and the Central. In the State they are known as the eastern and western fields. The eastern field has an area of 11,180 square miles, and contains coals of superior excellence. Within its borders are found some excellent cannel coals, some superior coking coals and a part of the famous Jellico steam and domestic coal, which extends from Anderson and Campbell counties, Tenn., into Whitley county, Ky. The discovery of the coals in Eastern Kentucky, capable of producing a high-grade coke, is one of great importance in its bearing upon the future development of the Appalachian region. Some of these coking coals are nearer Chicago and the Bessemer ores of Lake Superior than Connellsville coke, and they are the nearest coking coals to Cincinnati and Louisville. But their greatest value is in their proximity to the great ore deposits of the South. The conditions in the neighborhood are favorable to the manufacture of cheap iron and steel, and a local market may be built up capable of absorbing a large output of high-grade coke.

"The western fields form the southeastern extremity of the Central or Illinois field. It has an area of 4500 square miles. It is penetrated throughout its entire length by the Green river, which is navigable at all seasons, and which exposes in its course outcrops of all of the twelve seams in the field. The western part of the field is convenient to the Ohio river, so that all of the coal is accessible to cheap water transportation. Some coke of excellent physical structure is made from one of the coals in the upper measures. There is an abundant supply of cheap iron ores convenient to the field. Should the contemplated ship canal connecting Lake Michigan with the Mississippi river be completed the high-grade ores of Lake Superior could be brought to Kentucky to mix with these cheap ores, and a profitable iron industry built up, in addition to affording an outlet by water for these coals to the lakes."

These great mining interests are represented here by four companies, one the North Jellico Coal Co., of Knox county, which shows a three-foot seven-inch section of its seam; the McHenry Coal Co., of Ohio county, showing a four-foot nine-inch section, and the Empire Coal & Mining Co., of Empire, Christian county, which shows a two-foot five-inch seam. The St. Bernard Coal Co., of Earlington, Hopkins county, has an exhibit showing a five-foot

four-inch section of its No. 9 seam, and another of seven-foot ten-inch from its No. 11 seam. It shows also some fine furnace coke which, while having a somewhat open texture, appears strong and firm enough for any furnace requirements.

The company has placed here also a block of coal four feet seven inches by two feet eleven inches by two feet eleven inches which shows the quantity produced in the State during every minute of the past year. This contains 38.4 cubic feet, showing a daily production of 55,296 cubic feet, and 20,183,040 cubic feet in the year.

West Virginia stands fourth in rank of coal-producing States, and is the largest producer in the Southern States. Its development has been an extraordinary one, as in 1873 its output of coal was but 672,000 tons, and by 1883 this had increased to 2,235,833 tons. The greatest growth has been within the past ten years, however, as in 1894 its output had reached 11,627,757 tons. The development of this great field has been recorded in the columns of the MANUFACTURERS' RECORD for the past ten years, and no detailed reference to it is here necessary. Those familiar with the resources of the State assert that the growth of the past will be equalled in the future, and if it is, West Virginia will at some time take third, and possibly even second rank in the coal-producing States.

When the coal from this State was placed on the market, and, indeed, until some five years ago, producers of other and competing States claimed that it would not interfere with them, one reason being that the quality was against it. This never had any foundation, for this coal is universally admitted to be equal to the best bituminous coals of Pennsylvania, and its cokes have replaced the Connellsville product where quality was as great a desideratum as cost.

The production of coal and average price per ton since 1890 are shown in the following table:

Years.	Tons.	Price per ton.	Number of employees.
1890.....	7,394,654	\$0.84	12,236
1891.....	9,230,665	80	14,227
1892.....	9,738,755	80	14,857
1893.....	10,708,578	77	16,524
1894.....	11,627,757	75	17,824

The counties producing the largest tonnage in 1894 were Mercer, 1,072,950 tons; Kanawha, 1,084,359 tons; Marion, 1,399,898 tons; Fayette, 2,566,612 tons, and McDowell, 3,158,369 tons.

The State is represented here by five of the leading companies, each of which shows sections of its main coal seams, several exhibiting also specimens of the coke produced. The Collins Colliery Co., of Glen Jean, Fayette county, shows a five-foot nine-inch section. The Gauley Mountain Coal Co., of Anstead, Fayette county, shows a 10-foot section of its large seam, in which there are three small slate partings. There is also a pyramid of coke made from the coal.

An interesting display is made by the Pinnicknick Coal Co., of Clarksburg, Harrison county, showing a nine-foot six-inch section of its Pittsburg seam. The following analysis by George R. Bishop of this well-known gas coal is interesting:

MINE NO. 1, SECTION NINE AND ONE-HALF FEET, GAS COAL—ANALYSIS	
Moisture, 21.0° F.....	1.80
Volatile matter.....	39.87
Fixed carbon.....	54.31
Ash.....	4.00
Sulphur.....	0.79
Phosphorus.....	0.006
Nitrogen.....	1.28
Hydrogen.....	7.45

GASEOUS PRODUCTS	
Gas per ton of coal at 60° F., and 30 in. Bar., 12,123 cubic feet.	
Gas from one cubic foot of the coal, 420.78 cubic feet.	
Specific gravity of the gas, 550 (air, 1000).	
Hydro-carbons absorbed by bromine, 6.50 per cent.	
Durability of one cubic foot by five-inch jet flame, 28 seconds.	
Value of one cubic foot of gas in sperm, 507.60 grains.	
Value of gas from one ton of coal in sperm, 879.00 pounds.	
Illuminating power of gas in standard candles (per London Argand), 21 15 candles.	

Sulphuretted hydrogen (H₂S) in foul gas, 1.50 per cent.
Carbonic acid (CO₂) in foul gas, 1.70 per cent.
Carbonic oxide (CO) in foul gas, 10.75 per cent.
Sulphur eliminated with volatile products, 11.87 pounds.

LIQUID PRODUCTS
Tar per ton of coal..... 14.35 gallons.
Ammoniacal liquor per ton of coal..... 10.30 gallons.
Strength of ammoniacal liquor..... 3.06° Twad.
Hygrometric water per ton of coal..... 5.73 gallons.
Aqueous absorbent capacity of coal (determined by complete saturation)..... 3.10 per cent.

SOLID PRODUCTS.
Coke per ton of coal..... 1401.55 pounds.
Carbon in coke..... 93.40 per cent.
Ash in coke..... 6.60 per cent.
Sulphur in coke per ton of coal..... 4.03 pounds.
Heating power of one pound of coke (water from boiling point into steam)..... 12.83 pounds.

This company has also a pyramid of block coal from its No. 4 mine and a pile of fine, strong coke.

The Thacker Coal & Coke Co., of Logan county, has a four-foot four-inch section of its seam.

The most extensive exhibit from this State is that made by the Davis Coal & Coke Co. from its mines. This company conducts mining operations at Franklin, Md.; Hampshire, Windom, Elk Garden, Thomas and Coketon, W. Va., and has a daily capacity of 10,000 tons of coal and 500 tons coke. The exhibit consists of a block of "Davis smithing coal," which is widely known and has a market from Ontario points to Southern Texas, and from the extreme East to the Pacific slope. For welding and fine steel work and general smithing purposes it has enjoyed an unrivalled reputation for years. The vein is remarkably free from sulphur and other impurities.

The analysis as made by Major Powell, of the United States Geological Survey, is as follows:

Moisture.....	7.70
Volatile carbon.....	25.777
Fixed carbon.....	60.580
Ash.....	6.320
Sulphur.....	.550
Phosphorus.....	.003
	100.000

Prof. I. C. White, of the United States Geological Survey, says of this seam:

"Near Thomas it has become a splendid vein nearly eleven feet thick, as shown in section 94. Excellent coal is mined without taking out the bottom member. As already stated, the bed attains its great thickness in this region by the thinning away of the shales, which usually separate the Middle and Lower Kittanning beds, thus permitting the two practically to unite into one. The coal from it here is prized for smithing purposes quite as highly as the celebrated Blossburg bed, with which it appears to be identical."

The company also shows a section of its "Big Vein" at Elk Garden and some piles of 72 and 48-hour coke. This coke is made from the Davis coal. It is bright, silvery and hard, and has an excellent reputation in the market for foundry and furnace uses because of its physical characteristics and low sulphur. It is specially adapted for silver and other smelting purposes, and is shipped in large quantities to Mexican and South American ports for this use. The analysis is as follows:

Moisture.....	.68
Volatile matter.....	1.05
Fixed carbon.....	92.75
Ash.....	6.12
	100.00
Sulphur.....	.48

There is a small display of specimens of coal from Texas, but the pieces are too small to form much of an idea of their character. They are all from the San Carlos field. Prior to 1889 this State produced but little coal, and only during the past three years has its output shown any considerable growth. The output since 1890 is given as follows:

	1890.	1891.	1892.	1893.	1894.
Tons.....	184,440	172,100	245,690	302,206	420,848
Value.....	465,900	412,300	569,333	688,407	976,458

Within the past year the San Carlos field has been opened, and it is probable that

from this source the output of the State will be largely increased, and also likely from other coalfields which may be developed later on.

An exhibit which has but little interest, owing to its incomplete state, is that made by the Solvay Process Co., of Syracuse, N. Y. This company shows a large bottle of coal, and beside it another bottle containing coke. This coke is supposed to be the amount which will be obtained from the coal if the bottle of the latter were coked in a beehive oven. Alongside of this there is another bottle of the same size containing coal; next to it a bottle of coke marked 80 per cent., which is supposed to represent the amount which would be recovered from coking the bottleful of coal in a Semet-Solvay retort coke oven. In addition to that, this form of oven would give fifty pounds of gas tar, twenty pounds sulphate of ammonia and 300 cubic feet of illuminating gas, all of which are shown in bottles alongside the coal. There are, unfortunately, no circulars or descriptive matter of any kind, nor are there any drawings of ovens or anything else that would show a person unfamiliar with the subject what the exhibit meant. To all intents and purposes it is, as one observer said, "nothing but a lot of bottles filled with black stuff."

In addition to the coal exhibits which have been described above, there are several others in different parts of the grounds, and also one in the Mineral and Forestry Building which has been designed as an object-lesson. This is an enormous cube of coal eleven feet two inches each way, that is, 1392 cubic feet, which represents a weight of about fifty five tons. This is the amount of coal produced in the South during every minute of the year, and a glance at its size cannot fail to impress one with the greatness of the industry that has grown up practically within the last twenty years. This is a production of 2,004,480 cubic feet every day and 831,635,200 cubic feet each year. This coal was supplied by the South Jellico Company, of Tennessee.

The Galloway Coal Co., which has been mentioned, has, in addition to its exhibit in the Mineral and Forestry Building, a large pyramid of coal in front of the main entrance to the building, where it makes a very impressive figure.

At the Southern Railway Co.'s building they have two pyramids of coal from the line of the road, one being marked, "Production of East Tennessee 13,325 tons every day;" the other from Alabama, "14,380 tons." On one of these pillars is marked, "Price, delivered in Atlanta, \$2.00 per ton." There is also a block of coal from the Patton mines of the Virginia & Alabama Coal Co. in Alabama. A large pile of coke from Birmingham is on one side of the building marked, "Price, \$1.75 per ton." A block of coal is also shown on the outside of the building from the Paint Rock Coal & Coke Co. at Alma, Tenn., and another of Alpine block coal from the Richmond Coal Co. at Chattanooga, Tenn. Inside the building, in a case, there is a sample of coal from the Corona mines in Alabama; also a piece of splint coal from the Virginia & Alabama Coal Co. in Alabama, a piece of coal from the Royal Coal & Coke Co., of Tennessee, and a specimen of Cardiff coal.

On the outside of the Alabama Building, near where the two entries of the Corona coal mine are, there is a pyramid of Birmingham coke that shows the excellent character that it has been brought to since washing was introduced. The specimens shown are especially free from "black ends." The Tennessee Coal, Iron & Railroad Co. has a large block of coal from the Sewanee seam, another from the celebrated Pratt seam, one from the Mammoth seam, another from the Underwood seam, and a fifth from the Blue Creek seam at Adger. It also shows specimens of coke made at each place. One of the most in-

teresting parts of this exhibit is a case containing specimens of unwashed slack coal as it comes from the mine, another of washed slack ready for coking, a third of the fine refuse carried off by washing, and a fourth of coarse refuse, consisting mostly of large lumps of slate separated from the coal in the process of washing. Two cases are shown, one of the coal from the mines at Johns, and the other from the Pratt mines.

The Pioneer Mining & Manufacturing Co., at Thomas, Ala., has some coal in an arch which it has built to display the product of Jefferson county. There is also a small pyramid of fine, strong coke.

The Standard Company, of Brookwood and Milldale, Tuscaloosa county, has in the building an exhibit of both coal and coke, and gives the following analysis:

MILLDALE COAL.	
Moisture.....	.68
Volatile matter.....	27.43
Fixed carbon.....	69.23
Sulphur.....	.28
Ash.....	1.77
COKE.	
Moisture.....	.045
Volatile matter.....	.48
Fixed carbon.....	92.50
Ash.....	7.37
Sulphur.....	.58

It has a bag of washed blacksmith coal. The sample is very free from slate and sulphur. This coal is well known throughout the district and eminently suited for blacksmith work.

The Patton and Coal Valley mines of Walker county, owned by the Virginia & Alabama Company, are further represented here by a mantel of coal in which has been placed a grate. There are also two small pyramids of block coal from these mines.

The Tutwiler Coal, Coke & Iron Co., Blossburg, Ala., has, in an annex to the Alabama Building, a large block of its coal and also a pyramid of coke. The analysis of the coal is as follows:

Fixed carbon.....	64.30
Volatile matter.....	32.68
Ash.....	2.08
Sulphur.....	.47
Moisture.....	1.07

In this annex there is also an exhibit of the Patton and Coal Valley mines in the shape of several large blocks of excellent coal from these same properties. The American Coal & Coke Co., of Walker county, has here a pyramid of block coal, and the Montevallo Coal & Transportation Co. has a large block of the coal previously referred to in this article. This is one of the best known domestic coals in the State.

H. S. FLEMING, M. E.

ATLANTA, GA., November 16.

A JUST CRITICISM.

The Failure of Southern States to Exhibit—Stupidity of Politicians in Failing to Grasp a Great Opportunity.

[Special Corres. MANUFACTURERS' RECORD.]

ATLANTA, GA., November 18.

The event of this week is Georgia Day, or as it is called by some, "Georgia-Grady" Day. This will bring the largest crowd which has yet come to the city. The railroads, which have been making every effort to induce travel to the exposition, have given exceptionally low rates on this occasion, most of the points being on a basis of one cent per mile. Such an inducement should bring thousands here, and extensive preparations have been made by both the railroads and the city for their proper reception.

There are on the grounds seven State buildings. Of the Southern States, only two are represented—Georgia, with a handsome and excellently-arranged building and exhibit, and Alabama, with a smaller building. The Northern States took interest enough for Pennsylvania, New York, Illinois and Massachusetts to erect handsome buildings, and even far-off California showed her appreciation of the exposition by providing a handsome and unique State building. What is the matter with our Southern States? Georgia is the only one

which really deserves the name of having a State building, for that erected for Alabama was entirely, as was its exhibit, through contributions of individuals and companies in the State, and without one cent of State money. But what of the other States? Maryland, which is soon to ask the co-operation of the South in her own exposition, cannot be found, except in the Woman's Building. Virginia has almost no display, nor has West Virginia, save some coal. North Carolina shows her minerals and timber and some few other products. South Carolina has a very small exhibit. Florida is fairly well shown in the Agricultural Building and the Plant System Building. Mississippi has nothing. Louisiana has a small exhibit. Texas has a still smaller one. Arkansas shows its apples and a few other products. Tennessee has a small, a very small, exhibit, and Kentucky little more.

People ask where all the energetic work to help attract attention to the South and to Southern resources comes from. The exhibits made here show beyond any question that the States themselves are not giving it. If they were, and had sufficient judgment to see the importance of the opportunity presented, they would each have been represented creditably. As it is, the small amounts subscribed by most of the States would not have been sufficient to make a creditable display at a county fair, much less this International Exposition. Certain of the public-spirited people in each State, excepting Mississippi, provided the funds which the State government was too narrow-minded to see the need of, and had it not been for this the exhibits of the resources of our Southern States—resources more varied and more full of promise than anywhere else in this country—would have been so meagre and utterly unworthy of what it represented as to be worse than useless—absolutely harmful.

Familiar with the entire South as I am, I cannot say that Georgia has any greater advantages than her sister States, but if one were to judge by the exposition alone it would appear that Georgia was the manufacturing State, the agricultural State and the home of all that was best in the South. Her manufacturers are the only ones who had progressive and aggressive spirit enough to display their products in a building devoted to nothing but Georgia manufactures. The State erected a building, and in it the counties have several fine exhibits. Even this display is open to severe criticism, as many of the counties failed to provide, but as compared with the other States Georgia has done wonderfully well.

It would be well if some of the States which are talking so loudly of what they will do for settlers and others who come into their territory to help them with money and energy, would help themselves a little more. The change would be beneficial, and probably result in dropping out some of the legislators whose efforts at governing themselves or their State have been such dismal failures.

We are starting in a period now when progressive people are needed to guide affairs. If anyone doubts this he can visit the exposition, and it will dawn on him at the same time that he feels a thrill of shame at the poor figure which his State, with its great possibilities, presents here.

With what they had, those in charge of the State exhibits have done well, some of them remarkably well, and the shame of all that has not been done rests on the State government.

The commissioner from California is fully alive to the opportunity presented here for bringing before people the various advantages offered by his State. Not only is the exhibit in the California Building a most interesting and instructive one, but to supplement it a number of lectures, illustrated

by stereopticon views, are being given in the large Auditorium on the grounds.

California is a beautiful State; its climate is delightful and its people prosperous, but in what are its advantages greater than those in the South? Why haven't the Southern States provided some equally instructive lectures? The people of the South know little enough of their own country. They want others to come here and locate, and, to interest them, have provided this great exposition. The interest is general, but not sufficiently local. By that I mean that while everyone is willing to talk about what they have, they are more willing to tell what they would like to have. Further, many exhibits made by counties and by individuals have lost the greater part of their usefulness by not having anyone in attendance to explain what they represent and endeavor to attract the attention of visitors. There isn't enough energy. A country provides for an exhibit and is then unwilling to spend enough to keep some one in it who can gather in any material results which may come. Manufacturing companies have exhibits showing their products, but have no one to explain them. In all of them together there has not been shown the one-hundredth part of the energy and push which should be. There are some exceptions to this general statement, and they shine out brightly by contrast.

The rivalry between New York and Chicago is going to be shown next Monday, when, on New York Day, the people of that State and city will have a chance to show whether they are as much interested in the South as they have always claimed to be. The New York commissioner here has arranged to engage 250 carriages, which may be taken as representing some 800 to 1000 people. On Saturday comes Brooklyn Day, and the following Monday New York has its turn. It is claimed that some 3000 people can be expected from the two cities, but whether or not this will be so remains to be seen. Certainly both of them have every reason to show their interest in the exposition by coming down. Both have the closest commercial and financial relations with the South, both as to New York money invested here and the South's extensive trade with the commercial houses of that city and State.

Chicago Day resulted in a great deal for the South. The people who were here went back with the intention of coming again and bringing their friends. They saw what the South was, and went back full of its possibilities. As an immediate result, a strong effort is being made to get the railroads to give as low freight rates from Chicago to the South as are now given from New York to Eastern points.

H. S. FLEMING, M. E.

EXHIBITS AT THE EXPOSITION.

Descriptions of Some Machinery Displays.

[Special Cor. MANUFACTURERS' RECORD.]

ATLANTA, GA., November 19.

Over in the northeast corner of the Transportation Building, opposite the Mexican exhibit, there is a little launch, in the stern of which is one of the Monitor vapor-gas engines which are rapidly coming into favor. The launch is the exhibit of the Monitor Vapor Engine & Power Co., of Grand Rapids, Mich. It is eighteen feet long by four feet ten inches wide. The engine is of two horse-power. The boat is a very handsome model and strongly put together, as well as finely finished.

The engine is particularly interesting, since it is the only one in this country which uses naphtha gas vapor in connection with an electric spark. The carburetting tank is placed in a forward compartment in the bow, and by means of a pipe which has a hose attachment to give it elasticity the vapor is carried back to the engine. Air is

forced into the carburetting tank from the engine. In the pipe leading from the tank to the engine there is placed a copper safety tube which contains wire gauze and a number of small pipes, thus absolutely preventing any possibility of fire going back into the gas tank.

The vapor as it goes to the engine is drawn by the back-stroke into the chamber in which the connecting rod is attached to the shaft, and is there mixed with air drawn in from the side. The shaft in revolving mixes these together, and at the termination of the down-stroke they pass into the upper part of the cylinder, are compressed on the up-stroke, and at its termination ignited automatically by electric spark.

The spark is supplied by six cells of an Edison-Leland battery, connection being made by a small switch placed at the side of the engine. On throwing this on and giving the balance wheel, which is connected with the end of the propeller shaft, a few rapid turns, the engine starts off without further trouble. On one side a throttle is provided by which can be regulated the amount of vapor delivered to the engine, and on the other side is an air valve which is regulated in proportion to the richness of the gas being used.

The whole arrangement is exceedingly simple, and when in operation would require little or no attention. The consumption of gasoline is estimated at about one pint per horse-power per hour, that is, in a two horse-power boat running ten hours two and one half gallons of gasoline would be required. As this costs only from seven to ten cents per gallon, the expense is very low. The larger engines which run about eight to ten horse-power use the same proportionate amount of gas. The engine shown in this boat is single acting, but in the larger sizes of four, six and eight horse-power a double-cylinder engine is made. This can be used with both cylinders operating, or when lower speed is desired, by simply moving the lever, only one cylinder is kept in use.

The propeller, which is connected through the propeller-shaft to the engine, is an interesting piece of mechanism. It is one of the reversing type which have been improved on recently by the company. The propeller-shaft is operated through the engine shaft by a long sliding coupling; a lever, which terminates in a handle, alongside the engine moves the propeller-shaft backward and forward, operating a rack at its end inside the propeller-wheel, and this in turn operates the pinion, which is keyed to the blade of the propeller, changing the position of the blades to any angle, thus making the boat go forward or backward or stand still at the will of the operator. This does away with the necessity of stopping the engine to reverse or start the boat. The propeller and all its parts, including the shaft, are made of bronze, and the company has wisely constructed the engine and propeller so that all parts are readily interchangeable, and in case of a breakdown it would be an easy matter to take out the injured part and replace it by another, which might be on hand, or could be telegraphed for. The engine is an ingenious piece of mechanism, and one which cannot but interest anyone fond of water sports, or those requiring small engines for light work.

Henry Disston & Sons, of Philadelphia, have in the Machinery Hall several large cases containing a very complete display of the various types of saws and other tools which they manufacture. The centre piece of the case is a large circular saw which is kept revolving. Around and radiating out from it are different sizes of carpenters' saws, some with fine teeth and some with coarse. Above this in the centre is a revolving dish-shaped saw. On each side of this are smaller saws of the usual

style used by carpenters, also some smaller sized circular saws, and in the outer edge cabinet saws, butchers' saws, pruning saws and many other kinds. At the base of the exhibit there are plumb bobs, levels, squares, rules and various smaller tools for carpenters and machinists. Back of the main case is another smaller one containing a large saw with a tooth such as is used exclusively in California. In the rear of this saw there is another 56-inch inserted-tooth segment re-saw for cutting veneers. In the back of the main case there is a full line of all the different styles of cross-cut saws. One, the "telegraph," has the full benefit of the tempering process, as the saw edge is unground. After tempering, the saw is ground from the gullet line for five inches to a 19-gage on the back, making a difference of five gages between the tooth edge and back. In a case in the back of the exhibit there are coiled up two 56 foot band saws, twelve inches wide, 14-gage. These saws are made from Disston's patent aluminum steel, which has a tensile strength of 190,000 pounds per square inch. There is another case showing the various styles and sizes of files and rasps. A smaller case contains rolls of narrow saws made from aluminum steel. In one end of the main case there are several planer knives for woodworking machinery.

There is in the Georgia Manufacturers' Building an ingenious pump, the invention of Mr. Spencer S. Marsh, of Atlanta. The purpose of the pump is similar to that of the well-known hydraulic ram, in which a small head of water suffices to drive a stream to considerable heights.

This pump consists of, first, a trough with automatic doors on the bottom at both ends. Beneath this is an oscillating beam, on each end of which are buckets. From the middle of the beam a lever extends downward, and is attached to the piston rod of a small double-acting pump. In action, one end of the beam rises, and when the bucket strikes the trough, the small door or valve opens and allows it to fill with water. The weight depresses this end of the beam and raises the bucket on the other end to the trough, when it in turn is filled. When the first bucket strikes the base of the stand a small rod opens a valve in the bottom of the bucket. The water runs out and it rises again to the trough. This movement is continuous, and being carried by the small lever to the pump, gives a backward and forward motion to that which forces water to the point desired.

In placing the pump it is only necessary to set the top trough below the level of any spring, and attach the pump suction where desired. The pump is perfectly automatic in action and not liable to get out of order. It is an ingenious application of a simple principle.

It is only a few years ago that the monazite sands of North Carolina became of any commercial value, but in this time the product manufactured from them have found application over the entire world. The salts of the rare elements in monazite have always been interesting from the chemist's standpoint, but the first commercial application was in the mantles of the now widely-known Welsbach lights. These salts are the only ones yet found which have the property of cohering sufficiently to be used for such a purpose, and at the same time give, when incandescent, such a strong and white light.

The Welsbach Commercial Co., through which the products of the manufacturers, the Welsbach Light Co., are sold, has in the Mineral and Forestry Building an interesting exhibit of its lamps, showing the various styles of globes, and also the process of manufacture of the mantles. In this exhibit there is a case containing a collection of the various salts of the rare elements found in monazite sand, and also some of the sand itself from North Caro-

lina, where nearly all that is used comes from.

In making the mantles which are placed in the burners, a web of cotton-thread is knitted in the shape of a long tube. This is cut in lengths for one mantle, about six inches. The web is gathered at the top with a piece of platinum wire and saturated with the fluid produced from the monazite salts, and attached to a wire support. Then the cotton in the mantle is burned out under an intense flame, which causes it to shrink from the size given to that of the mantle in ordinary use, three inches long. The mantle retains the shape and texture of the original cotton fabric, but consists entirely of the mineral oxide with which the cotton mantle was soaked prior to burning. The mantles, after being burned, are too brittle for shipment, and are soaked in crystalline, a variety of paraffine, which gives them considerable elasticity. When they are in use this burns out quickly, leaving them brittle.

The burner is the ordinary Bunsen burner, with a gas-check with three small holes. The amount of air consumed is regulated by an air-shutter, the same as used in the ordinary Bunsen burner so well known in chemical laboratories, the idea being to admit enough air to give perfect combustion to the gas, avoiding thus any yellow flame, all colors being produced by unconsumed particles of carbon. The colorless flame of the Welsbach burner is directed on the suspended web of the oxide, heating it to incandescence, and in that way giving the brilliant white light.

In a trial which was made by the representative of the company, the ordinary burner, with a six-inch tip, burned eight and one-half cubic feet of gas per hour, giving twenty candle-power light, while a Welsbach burner, placed on the same tip, consumed less than three cubic feet per hour, giving a light of over sixty candle-power.

Just above the exhibit the company has placed several photographs, one showing the interior of the office, another a room in the factory in which long lines of girls are sitting before tables preparing the mantles, and four others back of the exhibit showing the different parts of this work more in detail. The Mineral and Forestry Building is lighted by this company as a part of its exhibit.

The Akron Belting Co., of Akron, Ohio, has in the southwest end of Machinery Hall an exhibit of some of its belts, consisting of widths from four to twenty-four inches, and of varying thicknesses. A 30-inch and an 18-inch double belt, which are now in use, attached to the Buckeye engine in another exhibit, were made by this company, and have been sold to a cotton factory in North Carolina for delivery at the close of the exposition. Mr. Wilson, representing the company here, says that recently the Sibley Mill at Augusta purchased some 30-inch three ply and 36-inch three-ply belt from it. An order amounting to \$5000 was recently filled for the Laurens Mill at Laurens, S. C.; the Piedmont Mill, 15,000 spindles, at Piedmont, S. C., has been equipped with belting; Proximity Mill at Greensboro, N. C., 15,000 spindles, has taken \$3500 of belting; the Pacolet Mills at Pacolet, S. C., have secured from the Akron Company belting for the addition to its mill, and the new mills at Greenville, S. C., have also been fully equipped. A number of new contracts have been received from various other Southern mills, the total sales for this year being nearly twice the total amount sold in the past eight years.

It is to be regretted that the Central Railroad of Georgia, which traverses such a rich and extensive territory in that State, did not make a more fitting exhibit of the resources of the lands along its line. All it shows is a small exhibit in the Transportation Building, which does not by any means

give an idea of the territory through which it passes. However, it has had prepared for the exposition a set of unusually well-illustrated descriptive pamphlets, which are in great demand as much for the highly artistic manner in which they are made up as for the real value of the matter in them.

The country traversed by this railroad system in Georgia and Alabama is an unusually rich one, embracing the cities of Montgomery, Birmingham, Atlanta, Augusta, Savannah, Macon, Columbus, Americus, Albany, Milledgeville, Eufula, Opelika, Troy, Union Springs, Cuthbert, Dawson, Griffin, Barnesville, Fort Gaines, Tennille, Fort Valley, and many other important towns in Georgia and Alabama.

It was along this road that the early efforts at peach and melon-raising in Georgia became so profitable, and extended finally into the great fruit industry which now yields so large a revenue to its people.

The illustrations in its pamphlet, "Fruits of Industry," certainly present a pleasing picture of industrial, commercial and agricultural developments—extensive peach and pear orchards, watermelon patches of hundreds of acres, cotton plantations and vineyards. There are factories, mills, iron works and numerous other industries shown, besides a number of views of some of the more picturesque spots in the country. Another publication gives some interesting practical statements about fruit-growing, stock-raising, truck-farming, dairying and various other subjects of interest.

The John H. McGowan Co., of Cincinnati, Ohio, has near the middle of Machinery Hall a very interesting display of the numerous varieties of pumps which it manufactures. The exhibit is marked by a large white column in one corner, in which are set round glass bulls'-eyes of various colors. Within the column there are a number of electric lights, and, with a stream of water running down over it and falling into a pool at its base, a very artistic effect is produced.

The main feature of the exhibit is a large pump which supplies water to some of the fountains in the lake opposite Machinery Hall. This is a compound direct-acting pump, the high-pressure steam cylinder being fourteen and a-half inches diameter, and the low pressure twenty-two and a-half inches diameter. The water-cylinder is fourteen inches diameter, and the stroke twenty-four inches. The pump is well finished, and contains the various improvements which have of late years been made in compound pumping engines, as well as several patented features. One of these is what the company terms a "non-slippage" valve seat, which, it is stated, adds about 10 per cent. to the efficiency of the pump, since it prevents loss of power by slippage of water when the pump is in operation. This valve seat was displayed at the World's Fair, and received much attention from mechanics. The pump has a capacity of 1500 gallons per minute at normal speed. It has recently been sold to the Tennessee Coal, Iron & Railroad Co. for its furnaces at South Pittsburg. The exhibit contains also a line of hydraulic plug-tobacco machines and several other types of hydraulic machines for various uses.

H. S. FLEMING, M. E.

World's Fair and the Exposition.

President Higinbotham and Secretary Edmonds, of the Chicago World's Fair, have conveyed their admiration of the Atlanta Exposition in the following message to President Collier:

"MERIDIAN, MISS., Nov. 15, 1895.

"Hon. C. A. Collier:

"The directors and officers of the World's Columbian commission, en route homeward, reviewing their reception and entertainment at the hands of the officers of the Cotton States and International Exposition, feel impelled to record and transmit

to you an official expression that shall in some degree convey their admiration of your organization and an appreciation of the manifold courtesies of its members as citizens of Atlanta. Probably no body of men will contemplate the distinguished enterprise you have now unquestionably brought to its crowning glory who are better calculated to understand and properly estimate the cost in courage, tireless energy and martyr like faith than the directors and officers of the World's Columbian Exposition. We testify to your uncompromising success, and while marveling at the boldness of the undertaking, have ourselves been inspired by the prevalence everywhere of a spirit of enlightenment along all the lines of moral and material progress that has made possible such an achievement—an achievement so great that it has become an epoch not alone in the history of Atlanta and of Georgia, but of the entire country.

"We take with us memories rich in the fervor of those friendships of later years that mature in a clasp of the hands. The renewed brotherhood, planned of Providence, extends and crystallizes under such influences as controlled hosts and guests at Atlanta, and we trust and feel that the events of the last few days have been fruitful of those sentiments that, wisely directed, broaden the thoughts of men and unite them in patriotic purposes. We wish for your great work all the success its notable character deserves and bespeak for you the perpetual satisfaction that comes of public duty faithfully discharged.

"H. N. HIGINBOTHAM, President.

"H. O. EDMONDS, Secretary."

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In Mildness and Equability of
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In Schools, Churches, and
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civilization, and
In all that goes to make

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are
some
of
the
staple
crops
of
the
different
sections
of
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area:
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and **Small Fruits, Corn, Cotton,**
Peaches, Pears, Oats, Peanuts,
Grapes, Figs, and Other Hay,
And other Fruits, Grains, Rice.

The policy of the Atlantic Coast Line is to foster all developments along its line. It is the **Greatest Trucking Road in America**, and it provides every facility for getting farm, garden and orchard products to the Northern markets in best possible condition, in shortest time, and at lowest rates.

In no part of the country is there a greater abundance of game and fish than in the eastern counties of North and South Carolina.

NORTHERN FARMERS ARE INVITED to write for information in detail about the territory of the Atlantic Coast Line, which extends from **RICHMOND and NORFOLK to COLUMBIA and CHARLESTON.**

T. M. EMERSON,
Traffic Manager.

H. M. EMERSON,
Asst. Gen. Freight Agent.
WILMINGTON, N. C.